Staffordshire County Council

# The Minerals Local Plan for Staffordshire 2015 to 2030






## Sustainability Appraisal: Final Environmental Report February 2017

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# Introduction

1.1.1. This Strategic Environmental Assessment / Sustainability Appraisal (SEA/SA) has been prepared to accompany the new Minerals Local Plan, which has been produced by Staffordshire County Council. It explains how we have examined the potential sustainability impacts of the plan and the various policy options that were considered in its preparation, and it sets out how we arrived at the version of the Plan to be formally adopted.

1.1.2. The report builds on a series of earlier documents, published throughout the development of the Plan. The general approach was set out in a Scoping Report which was the subject of a consultation exercise between August and October 2013. This was followed by an Interim SA Report, prepared to accompany an early consultation draft of the MLP, which was published in April 2014. A "Sustainability Appraisal: Environmental Report" was published in June 2015 to accompany the consultation on the "Publication Version" of the Plan, and further assessments of the impacts of proposed changes to the Plan were prepared as it was examined by a planning inspector.

1.1.3. The current report is divided into three main sections. Section 1 serves as an introduction, discussing the principles of Strategic Environmental Assessment and Sustainability Appraisal (SEA and SA), and documenting how this report was prepared. Section 2 briefly discusses the early (pre-assessment) stages of the process, explaining how the assessment framework was prepared, and how it was then used to assess a range of options for the main elements used to build draft policies. Section 3 then goes on to describe the assessment of the complete policies and a range of quarry sites that might need to be worked to deliver the policies. Section 4 completes the main body of the report with a discussion of how we propose to monitor the SA / SEA process.

1.1.4. Strategic Environmental Assessment and Sustainability Appraisal

1.1.5. EU Directive 2001/42/EC on the assessment of certain Plans and programmes on the environment, generally known as the "SEA Directive", was transposed into English law through the Environmental Assessment of Plans and Programmes Regulations 2004. It requires a **Strategic Environmental Assessment (SEA)** to be carried out during the preparation of a wide range of plans and programmes that are likely to have significant effects on the environment. The objective of the assessment is to "provide for a high degree of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development".

1.1.6. The Minerals Local Plan is subject to the legislation, so a SEA needs to be carried out. The process involves:

- Preparing an "Environmental Report" on the likely significant effects of the draft Minerals Local Plan on the environment;
- Consulting on the draft Minerals Local Plan and the accompanying Environmental Report;
- Taking into account the Environmental Report and the results of consultation in decision making;

- Providing information when the Minerals Local Plan is to be adopted, showing how the results of the environmental assessment have been taken into account.

1.1.7. The Environmental Report must include:

- A description of the baseline environment;
- Links between the objectives of the Minerals Local Plan and other relevant policies, Plans, programmes and environmental objectives;
- Identification of existing environmental problems affecting the emerging Minerals Local Plan;
- The likely significant effects of the Minerals Local Plan on the environment, including biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and the interrelationship between these factors;
- The mitigation measures envisaged; and
- An outline of the reasons for selecting the alternatives chosen;
- Monitoring measures envisaged; and
- A non-technical summary.

1.1.8. The scope of the Environmental Report must be agreed with the statutory consultees – currently Natural England, English Heritage, and the Environment Agency. A consultation to fulfil that requirement was carried out between August and October 2013, and appropriate amendments have been made. The Revised Scoping Report, including these changes, can be found on our website.

1.1.9. In addition to the requirement to carry out a SEA, the Planning and Compulsory Purchase Act (2004) requires development Plans to undergo a process of **Sustainability Appraisal (SA)**. Planning Practice Guidance (Paragraph: 008 Reference ID: 11-007-20140306) suggests that a properly conducted SA should fully encompass the requirements for SEA, as well as widening the scope to take in social and economic issues, so there is no need for a separate SEA process. It is important to remember, however, that the requirements for SEA and SA must both be fully met.

1.1.10. The new Minerals Local Plan is therefore subject to both SEA and SA. This "Environmental Report" describes how we have assessed the potential impacts of the Plan and the various alternative approaches that we also considered during its preparation. It has been prepared in line with the requirements of both sets of legislation concurrently. Table 1 shows how the integrated SEA/SA process links with the development of the new Minerals Local Plan.

**Table 1: Links between SEA/SA and MWDF development (based on ODPM 2003 and 2004) Note that Stage E will be completed once the Plan has been formally adopted.**

| MWDF stage | SEA/SA stage |
|---|---|
| Pre-production | A. Setting the context and objectives, establishing the baseline and |

| MWDF stage | SEA/SA stage |
|---|---|
| | deciding on the scope<br>A1. Identify other relevant Plans, programmes and sustainability objectives.<br>A2. Collect baseline information<br>A3. Identify sustainability issues<br>A4. Develop the SA framework<br>A5. Test the Plan objectives against the SA framework<br>A6. Consult on the scope of the SA |
| Production | B. Developing and refining options<br>B1. Appraise issues and options<br>B2. Consult on the SA of emerging options |
| | C. Appraising the effects of the Plan<br>C1. Predict the effects of the Plan, including Plan options<br>C2. Assess the effects of the Plan<br>C3. Mitigate adverse effects and maximise beneficial effects<br>C4. Develop proposals for monitoring<br>C5. Prepare the SA report |
| | D. Consulting on the Plan and SA report<br>D1. Consult on the SA report alongside the Plan<br>D2. Appraise significant changes<br>D3. Decision making and provision of information |
| Adoption and monitoring | E. Monitor implementation of the Plan<br>E1. Monitor the significant effects of the Plan<br>E2. Respond to adverse effects |

## 1.2. Staffordshire County Council's new Minerals Local Plan

1.2.1. Minerals are essential to our prosperity. They provide the raw materials for industry, the building materials for everything from houses to roads, and an energy resource. Staffordshire has a rich and diverse mineral resource, and this has been a corner-stone of the county's prosperity. However, mineral extraction can have significant impacts on the environments and the communities that host it.

1.2.2. Local planning policies for mineral development had been "saved" from the previous Minerals Local Plan, but there was a requirement to review these policies to meet the requirements of reforms to the planning system introduced by the Planning and Compulsory Purchase Act 2004, and to ensure that the Plan addresses current issues. The County Council's programme for review was set out in its Minerals and Waste Development Scheme. Details can be found on the County Councils website at: www.staffordshire.gov.uk/Planning.

1.2.3. This new Minerals Local Plan addresses key issues of the development of minerals in the county over the next 15 years, and indicates strategic sites where minerals can be extracted. The Plan has been prepared in the context

of contributing to the aims of sustainable development where extraction of minerals takes place after first reducing, as far as practicable, the quantity of mineral used; and secondly, using as much recycled and secondary material as possible.

1.2.4. Preparation of the Minerals Local Plan has involved setting out the following elements:

- An overall vision explaining how the county should change as a consequence of mineral development over a period of at least 15 years;
- Strategic objectives focussing on the key issues to be addressed and indicating how the vision is to be achieved; and
- A delivery strategy for achieving the objectives including the identification of sites central to the achievement of the Plan.

1.2.5. Throughout the preparation of the Plan the sustainability appraisal has run in parallel: assessing the potential implications, and informing the choice of different policy and site options. This report provides an insight into the reasoning that has shaped the new Minerals Local Plan, and explains how we intend to monitor its impact.

## 1.3. Methodology and limitations

1.3.1. This Environmental Report has been prepared by Staffordshire County Council between October 2013 and January 2017. It is guided by the Revised SEA/SA Scoping Reports prepared following public consultation between August and October 2013, the Interim Report produced in May 2014, and the responses received during a period of public consultation during the summer of 2014.

1.3.2. Table 2 summarises the work that has been carried out on the SA/SEA up to the stage of drawing up this report, and notes any problems encountered. Every effort has been made to ensure that the SEA/SA process has kept in parallel with the preparation of the new Minerals Local Plan, so that the assessment can shape the Local Plan on an on-going basis.

**Table 2: Progress of the SEA/SA to date, and problems encountered.**

| Task | | Approach | Dates | Problems encountered |
|---|---|---|---|---|
| A1 | Identify other relevant Plans, programmes and sustainability objectives. | List prepared for original Scoping Report was used as a starting point, but has been reviewed to take account of extensive changes in the intervening years | November 2007 onwards | A huge number of policies etc. have the potential to be relevant to aspects of the emerging MWDF. An attempt has been made to select those of greatest relevance to the Minerals Local Plan for listing within this document. |

| Task | | Approach | Dates | Problems encountered |
|---|---|---|---|---|
| A2 | Collect baseline information | Again, the original proposed baseline data sets have been used as a starting point, and updated. They have been chosen, based on the information needed to assess performance against the proposed SA Objectives. | December 2007 onwards | Data availability is a widespread problem in the field of SEA/SA. It has proved particularly difficult to identify impacts in such subject areas as climate change and the economy that can be directly attributable to the minerals industry.<br>The intended range of the category "Material Assets" is unclear, and our interpretation may have led to gaps in coverage. |
| A3 | Identify sustainability issues | As with previous tasks, Environmental / sustainability issues identified during the preparation of the previous scoping reports have been reviewed and updated to reflect current circumstances. | February 2008 onwards | There is not always adequate data to fully substantiate the issues that have been identified, though the situation is improving. Perceived issues have still, however, been listed with a view to, collecting data as the SEA/SA process continues. |
| A4 | Develop the SA framework | Original objectives and indicators have been updated to reflect the current plan-making framework. | December 2007 onwards | In some topic areas it has been difficult to identify objectives and indicators that specifically address the likely impacts of the emerging Minerals Local Plan. |
| A5 | Test the Plan objectives against the SA framework | The newly revised Plan objectives have been tested against the SA framework to identify any inherent tensions. | July 2013 | None |
| A6 | Consult on the scope of the SA | A Scoping Report has been prepared and circulated for review. Comments received from Statutory Consultees, and others, have been incorporated into a Revised Scoping Report | August to October 2013 | None |
| B1 | Appraise issues and options | Key issues to be addressed by the Minerals Local Plan have been identified and a range of potential policy options to address them have been assessed against the SA Objectives developed in the Scoping Report. | October 2013 to April 2014 | Assessment of policy options at this stage can reveal a high degree of uncertainty where the detailed implications (e.g. the range of sites to be worked) are not yet known. Greater confidence of outcomes can be achieved as the details of implementation become clearer. |
| B2 | Consult on the SA of emerging options | The SA Interim Report formed the basis of this consultation. | May - June 2014 | None. |
| C1 | Predict the effects of the Plan, including Plan options | The potential impacts of the draft policies, and a wide range of possible future quarry sites have been assessed against the SA framework | May 2014 – March 2015 | There is considerable variation in the level of information available about the various options for future quarries. More detailed proposals could encourage more favourable assessments as it is easier to be confident that adverse impacts can be avoided or mitigated |

| Task | | Approach | Dates | Problems encountered |
|---|---|---|---|---|
| C2 | Assess the effects of the Plan | Potential impacts of the policy and site options have been compared, and a selection chosen that should minimise adverse impacts and maximise positive impacts, whilst reliably meeting the key Plan Objectives | May 2014 – March 2015 | Variations in the level of detail available for different proposals. Difficulty comparing the importance of different impacts, and taking into account the stages when they apply (extraction, restoration afteruse) |
| C3 | Mitigate adverse effects and maximise beneficial effects | Where adverse impacts are considered to be possible, measures to minimise or mitigate these have been put forward. Steps to maximise beneficial outcomes have also been identified where possible. | Feb – May 2015 | Some impacts would be hard to fully mitigate. |
| C4 | Develop proposals for monitoring | Proposals have been developed to monitor whether predicted benefits are actually delivered. To avoid duplication, these have been integrated into the monitoring proposals for the overall Plan. | April – May 2015 | Monitoring needs to be proportional, and fully integrated into overall Plan monitoring |
| C5 | Prepare the SA report | This document fulfils that role | Feb – May 2015 | Deciding on the level of detail, especially supporting assessments, to include in the report and appendices |
| D | Consulting on the Plan and SA report | A period of consultation is planned to follow the publication of the documents | June – July 2015 | A wide range of representations were formally made, many of which challenged the process of sustainability appraisal. However, detailed discussion through the examination hearings established that the approach was reasonable. |
| E | Adoption and monitoring | Once the Plan has been formally adopted, we will monitor the significant effects as it is implemented, and respond to any adverse effects that may arise | February 2017 onwards | N/A |

## 1.4. Additional Appraisals and their relationship to the SEA/SA

1.4.1. In addition to the requirement to carry out a SEA/SA of the emerging Minerals Local Plan, the County Council is also obliged to formally assess whether the Plan might adversely affect any sites of ecological importance at a European level, and to ensure that it does not have any adverse impact on flood risk. Whilst these processes – referred to as Habitats Regulations Assessment (HRA) and Strategic Flood Risk Assessment (SFRA) - are separate from the SEA/SA and will be documented in detail separately, the issues that they relate to are also addressed in the SA.

1.4.2. HRA and SFRA were carried out when work first began on the new Minerals Local Plan in 2008. The reports produced at that time have been comprehensively reviewed and updated as the process has developed, and are available in the online Policy Document Library.

# How the SEA/SA began

## 1.5. Setting the framework

1.5.1. In October 2013, the framework for the SEA/SA process was defined in a **Scoping Report**, sent to the statutory consultees and made available for wider consultation. The comments received were incorporated into a **Revised Scoping Report** which has shaped the rest of the process.

1.5.2. A key outcome of the Scoping Report was the agreement of a set of 17 SA Objectives which have subsequently been used to test assess the potential impacts of the various elements of the emerging Minerals Local Plan. These SA Objectives are listed in **Appendix A**

1.5.3. In April 2014, an **Interim Report** was published, focusing on the development and testing of a Vision and Strategic Objectives, as well as a range of policy options. Comments were invited from the public, statutory consultees, and other interested parties.

## 1.6. Testing the vision and strategic objectives

1.6.1. The draft Vision and Strategic Objectives for the new Minerals Local Plan were tested for their compatibility with the 17 SA Objectives. The detailed assessment tables were presented in the Interim Report.

1.6.2. The Vision was found to show a good level of compatibility with the SA Objectives, and can be expected to make positive contributions to all but two of those objectives, without any adverse impacts.

1.6.3. Overall, the Strategic Objectives were found to expand on all of the key aspects of the Vision. They each concentrate on a specific aspect of that Vision but, taken together, they offer broad support for all but one of the SA Objectives. The only exception (SA Objective 9) is particularly narrow, focussing on maintaining the supply small quantities of highly specialised building stone, so the absence of specific support within the Strategic Objectives should not be seen as a problem.

1.6.4. The vision and strategic objectives have undergone minor adjustments during the development of the Plan, and the final versions are set out in **Appendix B**.

## 1.7. Identifying issues and policy options

1.7.1. The next stage was to identify the key issues which need to be addressed through policies within the emerging plan. These fell into four main themes:

- Ensuring a steady and adequate supply of aggregates and industrial minerals;
- Safeguarding mineral resources from sterilisation caused by built development;
- Minimising the environmental impact of mineral operations; and
- Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place.

# Developing policies

## 1.8. Developing and appraising the policy options

1.8.1. The issues referred to above were subdivided where appropriate, and the possible policy approaches to each issue were identified. These were assessed against the SA Objectives, and the best performing policy option for each issue was then identified. **Appendix C** provides a summary of the options tested and the conclusions reached, while the full analysis can be viewed in the **Interim Report**.

## 1.9. From preferred options to draft policies

1.9.1. The next stage in the plan making process was to build the preferred policy options into fully formed draft policies. Many of the preferred policy options were transferred straightforwardly into draft policies, but in some cases, the assessment against SA objectives encouraged us to incorporate elements of other options in order to improve the predicted effectiveness of an emerging policy.

1.9.2. Draft policies were made available for public consultation, along with the SA Interim Report. Comments were received from a wide range of consultees, and the policies were refined in the light of comments received. **Appendix D** shows the revised wording of the draft policies, together with their predicted impacts on the SA Objectives

## 1.10. Predicting and assessing the effects of the Plan including plan options

1.10.1. **Appendix E** provides details of the assessment of the draft policies. Given the way that the draft policies were produced, it is not surprising that they perform quite well in the assessment, with a good number of potential positive outcomes. There are, however, also several potential adverse impacts, but it is important to remember that the policies will all work together. Policy 4, for example, is designed to ensure that the potential adverse impacts of elements of Policy 1 are avoided, or at least minimised.

## 1.11. Considering site options

1.11.1. A key element of assessing the effects of the new Minerals Local Plan was to consider the additional mineral resources that will be required to deliver the new Minerals Local Plan, and how those resources might be worked, particularly in relation to the provision of aggregates from sand and gravel deposits. Policy 1.1 lists specific sites to be allocated for future sand and gravel extraction, while Policy 1.4 identifies an “Area of Search” in which proposals for new quarries will be considered should further sites be needed to achieve the anticipated levels of sand and gravel production.

1.11.2. To inform the choice of sites, and to ensure adequate consideration of alternatives, the assessment process examined the implications of working minerals in a wide range of potential locations. These include:

- Sites put forward by mineral operators (typically as extensions to existing sites);

- Sites put forward by landowners or their agents (with or without confirmed interest from an operator); and
- Sites that have been proposed during the preparation of previous plans, but which were not put forward during this round of preparation.

1.11.3. Table 3.

**Table 3: List of sites assessed for potential sand and gravel extraction**

| Site Name | Extension / Stand-alone | Reason for consideration |
|---|---|---|
| Alrewas South | Extension | Promoted by quarry company |
| Barton (Wychnor) | Extension | Promoted by quarry company |
| Bucks Head Farm (Hints) | Extension | Promoted by quarry company |
| Calf Heath | Extension | Promoted by quarry company |
| Captains Barn Farm | Extension | Promoted by quarry company |
| Cranebrook (Hamerwich) | Extension | Promoted by quarry company |
| Croxden (North and South) | Extension | Promoted by quarry company |
| Newbold NE (Tatenhill) | Extension | Promoted by quarry company |
| Saredon South | Extension | Promoted by landowner |
| Shire Oak | Extension | Promoted by quarry company |
| Upper Whittimere | Extension | Promoted by quarry company |
| Uttoxeter (Dove) | Extension | Promoted by quarry company |
| Weavers Hill | Extension | Promoted by quarry company |
| Weeford (Camp) | Extension | Promoted by quarry company |
| Weeford (Sawpits Lane) | Extension | Promoted by landowner |
| Weeford (Ricketts) | Extension | Not currently promoted |
| Area of Search West of A38 | Area of search in which proposals for specific sites will be encouraged | Proposed by Minerals Planning Authority based on evidence of options promoted by quarry companies |
| Alrewas West | Stand-alone site within AoS | Promoted by quarry company but in AoS |
| Bancroft Farm | Stand-alone site close to AoS | Promoted by landowner |
| Beech | Stand-alone site | Promoted by landowner |
| Fisherwick | Stand-alone site | Not currently promoted |
| Folly Wood | Stand-alone site | Promoted by landowner |
| Lodge Farm, Weston | Stand-alone site | Promoted by landowner |
| Mile Flat | Stand-alone site | Promoted by quarry company |
| Moddershall Grange | Stand-alone site | Promoted by quarry company |
| Netherset Hey | Stand-alone site | Promoted by landowner |

| | | |
|---|---|---|
| Seighford North | Stand-alone site | Promoted by landowner |
| Seighford South | Stand-alone site | Promoted by landowner |
| Wychnor Estate (South) | Stand-alone site within AoS | Promoted by quarry company but within AoS |
| Wychnor Estate (North) | Stand-alone site within AoS | Promoted by quarry company but(within AoS |
| Hopwas Woods | Stand-alone site | Promoted by quarry company – NOW WITHDRAWN |
| Swindon Golf Course | Stand-alone site | Promoted by quarry company |

1.11.4. The assessment process took into account the potential impacts on the 17 SA Objectives over the lifetime of a potential mineral site, considering not only the working of the minerals at each location, but also the restoration and afteruse of the sites, subject to the limitations of information available.

1.11.5. Appendix F presents the findings of that assessment. Based on that analysis, conclusions were drawn about the most suitable combinations of sites to provide a steady and sufficient supply of sand and gravel, whilst minimising any adverse impacts, and maximising any positive impacts on the environment and the community.

1.11.6. Table 4 summarises the key conclusions, and the predicted impact of working the preferred combination of sites has been considered in the assessment of Policy 1.

1.11.7. Note that the assessment of the impacts of finding additional sites for extracting sand and gravel within an "Area of Search west of the A38", or in a range of alternative combinations of sites, was carried out in the assessment of policy options. Findings are presented in Appendix D.

**Table 4: Summary of key findings of site assessments**

| Site Name | Summary from assessment | Allocation status |
|---|---|---|
| Alrewas South | Large site with good strategic location and few potential adverse impacts. Even the three potential negative scores can be managed to avoid any lasting damage. | Preferred Site |
| Barton (Wychnor) | Large site with good strategic location and few potential adverse impacts. Negative score for SA Objective 11 (Soils) can be mitigated through appropriate restoration, while SA Objective 13 (Historic Environment) will require careful mitigation and this may involve exclusion of some sensitive areas from the area to be worked. That said, the site can still supply a significant resource and contribute significantly to maintaining production of sand and gravel | Preferred Site. |
| Bucks Head Farm, Hints (North Western extension) | Large site with good strategic location and few potential adverse impacts. Single negative impact for SA Objective 11 (Soils) can be mitigated by appropriate restoration, while potential negative impact on SA Objective 13 (Historic Environment) can be addressed through well planned assessment and recording. | Preferred Site. |

| | | |
|---|---|---|
| Calf Heath | Extension to site with good location that has recently commenced production. The site has 5 potential negative impacts but all of these should be capable of effective mitigation through appropriate layout, operation and restoration. There are also positive impacts expected for SA Objective 9 (Biodiversity) through restoration to enhance habitats | Preferred Site |
| Captain's Barn Farm | Smaller site supplying co-located concrete and concrete products manufacturer. There are several potential adverse impacts, but almost all of these can be avoided or mitigated to acceptable levels through appropriate site design, layout and operation. | Preferred Site |
| Cranebrook | Small site with specialist product and important location relative to the market. There are two negative impacts predicted, but the effect on SA Objective 11 (Soils) can be mitigated by appropriate restoration, while the effect on SA Objective 15 (Landscape) should be significantly reduced by the reduction in extension area that has been put forward for consideration. Other potential negative impacts can be mitigated. | Preferred Site |
| Croxden North | An extension to a key site with an important location relative to the market. Generally impacts are minimal, but there are possible negative impacts identified for SA Objective 6 (Transport), SA Objective 12 (Air Quality), and SA Objective 15 (Landscape). The impacts on 6 and 15 have already been subject to some mitigation, while the impact on 12 is anticipated to be small. | Preferred Site. |
| Croxden South | A second proposed extension to a key site with an important location relative to the market. Generally impacts are similar to the proposed northern extension, but a negative impact is expected SA Objective 15 (Landscape). Extraction would have a high adverse impact on landscape character of the valley, and potentially beyond. | Not a preferred site at present. |
| Newbold North East | An extension to a key site with an important location. There are a few potential adverse impacts, but these are all capable of mitigation through appropriate layout and operation. Previous predicted negative impact for landscape has been effectively modified through adjustments to the area to be worked. | Preferred Site |
| Saredon South | Smaller site with important location relative to local markets. Potential negative impacts are capable of mitigation through appropriate layout, operation and restoration | Preferred Site |
| Shire Oak | Smaller site with important location relative to local markets. Negative impact predicted for SA Objective 11 (Soils) can be mitigated through appropriate restoration. The other predicted negative impact (SA Objective 6 (Transport) )would require further investigation to fully assess its significance, and whether mitigation would be required. | Not a preferred site at this stage |
| Upper Whittimere | Small site capable of producing building sand, but with uncertainties over deliverability Location gives rise to predicted negative impact for SA Objective 6 (Transport) and SA Objective 10 (Ground and surface water), both of which would require further investigation to fully assess their significance, and whether mitigation would be required | Not a preferred site at this stage |
| Uttoxeter (Dove) | Potential key site with important location relative to both northern and southern markets. Predicted negative impact for SA Objective 15 (Landscape) may be reduced by careful mitigation, and earlier concerns over impacts on SA Objective 9 (Biodiversity) have been reduced by plans to exclude key areas from the extension, though some uncertainty still remains. | Preferred Site |

| | | |
|---|---|---|
| Weavers Hill | Small site capable of producing building sand, but with uncertainties over deliverability. Location immediately adjacent to Ramsar site makes predicted adverse impacts for SA Objective 9 (Biodiversity) and SA Objective 10 (Ground and surface water) particularly significant. Predicted negative impact for SA Objective 15 (Landscape) would also be difficult to mitigate. Much more work would be needed before this site could be considered development | Not a preferred sit at this stage |
| Weeford (Camp) | Key site with important location relative to markets. Predicted adverse impact for SA Objective 15 (Landscape) is expected to be significantly reduced by recent changes to the proposed working area, while the 6 potential adverse impacts are all capable of mitigation through appropriate design, operation and restoration of the site. | Preferred Site |
| Weeford (Sawpits Lane) | Smaller extension to a key site with important location relative to the market. Impacts are broadly similar to those for proposed Camp extension, but the site is considerably closer to sensitive properties and predicted negative landscape impacts would be hard to mitigate effectively. | Not a preferred site at present |
| Weeford (Ricketts) | An extension to a former site, and located close to the other Weeford proposals. This site has been proposed in response to earlier calls for sites, but insufficient information is available to conduct a comprehensive assessment. | Not a preferred site at present |
| Area of Search West of A38 | A broad area encompassing a sand and gravel resource in which development has not been encouraged in the past. Assessment predicts negative impacts for SA Objective 8 (Flood management) due to the presence of areas of Flood Zone 3, and for SA Objective 17 (Health and amenity) because of the large number of houses close to the area. Both of these impacts can be effectively mitigated by design, layout and operation as the detailed proposals for new quarries within the AoS are developed. | Preferred Allocation |
| Alrewas West | A key area with significant river gravel deposits in an important location relative to markets. The site has been proposed in earlier plan-making processes, but is now not specifically promoted, though it now falls within the AoS. Negative score for SA Objective 8 (Flood management) can be mitigated by appropriate site layout and operation, while restoration may offer potential for creating additional flood storage. A few other potential adverse impacts may also require mitigation. | Site within the Area of Search |
| Bancroft Farm | A significant reserve, but potential to supply the market is uncertain. It falls close to the AoS, but was not included within it. Negative score for SA Objective 8 (Flood management) can be mitigated by appropriate site layout and operation, while restoration may offer potential for creating additional flood storage. Negative score for SA Objective 15 (Landscape), however, would prove difficult to mitigate. Several other potential adverse impacts would require careful mitigation, notably SA Objective 6 (Transport) as access is difficult | Not a preferred site at present |
| Beech | A significant reserve, but potential to supply the market is uncertain. The site has been proposed in previous plan-making processes. Negative score for SA Objective 15 (Landscape) results from prominent position and would be hard to mitigate. Other potential negative impacts including SA Objective 6 (Transport) would require careful mitigation. | Not a preferred site at present |

| | | |
|---|---|---|
| Fisherwick | A significant reserve, but potential to supply the market is uncertain. The site has been proposed in previous plan-making processes, but is now not actively promoted. Potential negative score for SA Objective 8 (Flood management) could be mitigated by appropriate site layout and operation, while there is an opportunity to make a significant contribution to alleviating a local flooding problem. Other impacts are expected to be minor, with potential for enhancing biodiversity through sensitive restoration. | Not a preferred site at present |
| Folly Wood | A smaller site, with uncertain potential to supply the market. There is a negative score for SA Objective 10 (Ground and surface water), and this may influence the design of the site and the way in which it could be operated. There are also more potential adverse impacts than for most other sites, and some of these, like SA Objective 6 (Transport) and SA Objective 7 (Greenhouse gas emissions) result from the site location, so full mitigation might be hard to achieve. | Not a preferred site at present |
| Lodge Farm, Weston | A smaller site, with uncertain potential to supply the market. Site is being promote by estate trustees. Negative impacts are anticipated for SA Objective 10 (Ground and surface water) and SA Objective 15 (Landscape). Former results from SPZ3 and may impact on how the site can be worked. There is also potential for secondary impacts on low flow rivers, so full mitigation may not be achievable. There are 2 other potential adverse impacts, relating to access (SA Objective 6 (Transport) ) and the geomorphological interest in the site, so mitigation may again be hard to fully achieve | Not a preferred site at present |
| Mile Flat | A smaller site with close proximity to market, but resource is uncertain. Site has negative scores for SA Objective 10 (Ground and surface water), SA Objective 15 (Landscape), and SA Objective 17 (Health and amenity). First relates to SPZ1 and 2, so may constrain the development of the site, the second may be possible to mitigate, but the third relates to the proximity of the site to adjacent housing and would be difficult to fully mitigate. There are a further 4 potential adverse impacts which will require mitigation and which may constrain operations. | Not a preferred site at present |
| Moddershall Grange | Significant reserve but questionable whether the site is required during Plan period. There are 3 negative scores, for SA Objective 6 (Transport), SA Objective 10 (Ground and surface water), and SA Objective 15 (Landscape). It may be possible to mitigate the first through routing improvements, but the second may constrain working and the third would be very difficult to fully mitigate. There are a further 3 potential adverse impacts which would require varying degrees of mitigation | Not a preferred site at present |
| Netherset Hey | Significant reserve but questionable whether access to the site is deliverable. There is also a predicted negative impact for SA Objective 15 (Landscape) which would be hard to fully mitigate. A number of potential adverse impacts would all require some degree of mitigation, and in the case of SA Objective 6 (Transport) it is not clear that this can reliably be provided. | Not a preferred site at present |
| Seighford North | Smaller reserve but proposal is uncertain. Only limited information is available. Negative scores for SA Objective 6 (Transport) and SA Objective 8 (Flood management). Latter can be mitigated by appropriate site layout and operation, though the former may be harder to avoid as it stems from the location being away from the main road network. | Not a preferred site at present |
| Seighford South | Smaller reserve but proposal is uncertain. Only limited information is available. Negative scores for SA Objective 6 (Transport) may be hard fully mitigate as it stems from the location being away from the main road network. Some other impacts are unclear | Not a preferred site at present |

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| Wychnor Estate (South) | Key area with significant river gravel deposits in an important location relative to markets. The site falls within the AoS. There are a couple of potential adverse impacts , and a high level of uncertainty about other impacts – largely due to the absence of any detailed proposals. Appropriate mitigation should avoid adverse impacts, but this will need careful planning as any detailed proposals are prepared. | Not a preferred site at present, but within AoS |
| Wychnor Estate (North) | Key area with significant river gravel deposits in an important location relative to markets. The site falls within the AoS. One negative score for SA Objective 8 (Flood management), but this can be mitigated by appropriate site layout and operation. There are a couple of potential adverse impacts, and a high level of uncertainty about other impacts – largely due to the absence of any detailed proposals. Appropriate mitigation should avoid adverse impacts, but this will need careful planning as any detailed proposals are prepared. | Not a preferred site at present, but within AoS |
| Hopwas Woods | WITHDRAWN<br>5 negative scores: SA Objective 9 (Biodiversity), SA Objective 10 (Ground and surface water), SA Objective 13 (Historic Environment), SA Objective 15 (Landscape), and SA Objective 16 (Recreation and greenspace) | Not a preferred site |
| Swindon Golf Course | Smaller site with close proximity to market but resource is uncertain. Negative scores are predicted for SA Objective 6 (Transport), as a result of the location, and for SA Objective 15 (Landscape). It may be difficult to mitigate these fully. There are also few other potential adverse impacts. | Not a preferred site at present |

1.11.8. The assessment showed that the preferred sites can all be developed for mineral extraction in terms of environmental and community impacts. It also shows that, though there were other potential sites which might initially appear to be suitable for allocation, Table 4 demonstrates that these were unlikely to be deliverable within the plan period because they were not actively promoted by either a quarry company or the owner of the mineral rights.

## 1.12. Mitigating adverse effects and maximising beneficial effects

1.12.1. The assessment process also highlighted the mitigation measures that would be necessary to ensure that any adverse impacts of developing the preferred site were minimised, while potential benefits were maximised. These measures are summarised in Table 5, and have been used to prepare a "development brief" for each of the preferred sites, and for the "Area of Search"

**Table 5: Development considerations for preferred sites**

| Site Name | Issues for development brief |
|---|---|
| Alrewas South | Potential adverse impacts on ecology can be more than compensated if opportunity is taken to create significant areas of BAP habitat and enhance ecological connectivity through sensitive restoration.<br><br>Consider opportunities to contribute to Central Rivers Initiative and Trent and Tame Futurescapes project. The quarry also falls within the National Forest and restoration should contribute to the objectives of the Forest taking into account its proximity to the National Memorial Arboretum.<br><br>Avoid damage to A513 Road Verge ditches.<br><br>Existing copses should be retained and linked to further planting. Where possible, existing hedgerows should also be retained with suitable buffers.<br><br>Site lies in an area with high potential for significant archaeological remains. Desk based assessment will be required to plan appropriate additional archaeological works.<br><br>Restoration should attempt to restore the historic character and maintain landscape connection with Fradley.<br><br>Landscape quality is very low, so impact on landscape character during extraction would be low, provided that mitigation is in place during operations.<br><br>There is potential for landscape enhancement at restoration.<br><br>Opportunities for use of the adjacent railway to deliver materials to backfill workings have been considered in the most recent application and should be further investigated for the purposes of |
| Barton (Wychnor) | Potential to contribute significantly to enhancement of ecological networks and resilience to climate change through restoration to BAP priority habitats including wet woodland, wet grassland and reedbed.<br><br>Consider opportunities to contribute to Central Rivers Initiative and Trent and Tame Futurescapes project. The quarry also falls within the National Forest and restoration should contribute to the objectives of the Forest taking into account its proximity to the National Memorial Arboretum.<br><br>There is a clear risk of adverse impacts on scheduled barrow cemetery within the site, and previously unrecorded outlying burials may also be found. Heritage England must be consulted at an early stage and it is clear that Scheduled Monument Consent will be required for any extraction or associated works. .<br><br>Site is close to River Mease SAC. Experience from existing mineral sites in the vicinity suggests that adverse impacts are unlikely, but Appropriate Assessment will be required. |
| Bucks Head Farm | Low impact on landscape subject to no loss of perimeter tree cover and appropriate buffering of trees on Knox's Grave Lane. Potential for mitigation from screen bunds and advance planting to enhance screening during operational phase.<br><br>Biodiversity benefits if restoration contributes to Staffordshire BAP Cannock Chase Heaths Ecosystem Area objectives. The site is within Cannock Chase to Sutton Park Initiative area as supported by the Local Nature Partnership that seeks to restore/ connect heathlands and associated habitats.<br><br>Demonstrable archaeological potential for surrounding area, and this may extend across site. Historic Environment Desk-based Assessment recommended. Historic character of landscape should be respected, and restoration of original field boundaries would be desirable.<br><br>High risk of BMV soils being present, so this should be considered. |

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| Calf Heath | Good potential to enhance ecological connectivity through reinstating field boundary hedges, and to create field ponds and margins. Retention of boundaries is also important for managing landscape impacts.<br><br>Considerable potential for archaeological interest, so suitable studies will be needed to inform any scheme. |
| Captain's Barn Farm | Site affected by ground water protection which may constrain operations. There is also a high risk of BMV soils being present, so this should be considered in designing the restoration strategy.<br><br>Reduction in site size from original proposal will reduce visual impact, especially to the south. Immediate views from A520 can be mitigated alongside site. Restoration should include features such as broadleaf woodland, stone walls, and pastoral farming.<br><br>There is potential to contribute to biodiversity enhancement through heathland and acidic woodland planting as well as restoration to agriculture.<br><br>Historic character of the wider area should also be considered in restoration, e.g. through re-establishment of lines of original field boundaries. |
| Cranebrook | Reduced site area may reduce potential views from properties along Walsall Road. Landscape objective is for innovative landscape regeneration, so restoration would be expected to deliver enhancements appropriate to landscape type.<br><br>Potential for biodiversity enhancement through inclusion of heathland within restoration to contribute to Cannock Chase to Sutton Park Initiative Area.<br><br>Moderate potential for unrecorded archaeological remains to be present on the site so further work would be needed to understand the potential and inform appropriate mitigation. |
| Croxden North | Care will be needed to ensure that working does not open up views of the operational area of the quarry. Restoration should involve a sensitive approach to design, and integration with entire quarry area. Should ensure that new woodland and other BAP priority habitats with enhanced connectivity are established to more than compensate for loss of large area of BAP priority woodland.<br><br>Adequate buffers will be required in south to protect adjacent Ancient Semi-natural Woodland, and restoration should improve connectivity. |
| Croxden South | Working the site would result in visual effects during operations that could not be fully mitigated. Restoration would result in a change in character and effects on perceived landscape quality of the valley as a whole. Proposed mitigation at restoration is not sufficiently sympathetic to landscape character. More sympathetic approach required for landform. Additional hedgerows and some stone walls would better reflect local landscape pattern |
| Newbold North East | Screening bunds, advance planting and management of hedges would help screen operational phases. Restoration will need to take account of proposed housing development at Lawns Farm and relocation of rugby club, but long-term impacts of a sympathetic scheme could be neutral / beneficial. Proposed large areas of open water should be broken up by islands to reduce scale of impact and increase diversity of habitats.<br><br>If restoration allowed for more frequent flooding, then scheme could provide flood risk benefits in Trent river catchment.<br><br>There is a high degree of archaeological potential, so a detailed desk-based assessment would be required to inform the scope of any further work that may be needed. |

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| Saredon South | Restoration should include elements typical of the landscape character.<br>Potential to contribute to BAP habitats and Forest of Mercia objectives by establishing new woodland and improving connectivity. Wildlife and Countryside Act 1981 Schedule 1 species present at existing quarry, so this will need to be considered in plans.<br>RIGGS group should be consulted about recording existing geological interest, and potential for creating new exposure.<br>There is low to medium level of archaeological potential, but a desk-based assessment would still be required to inform the scope of any further work that may be needed. |
| Uttoxeter (Dove) | Retention of landscape buffers along B5030 and visually significant vegetation will help to address impacts on landscape character. Restoration should seek to reinstate landscape features such as hedgerows, hedgerow oaks, small woodlands and flood pasture.<br>Care will be needed to ensure that biodiversity benefits achieved through restoration outweigh the losses.<br>Historic features associated with former flood meadows will need to be recorded before soil stripping, and care will be needed to ensure that quarrying operations do not have indirect impacts on scheduled Dove Bridge, by affecting flow rates in the river and changing sitation / erosion patterns downstream. |
| Weeford (Camp) | Exclusion of northern tip of originally proposed site creates a valuable buffer between the site and Little Hay. Advance planting on western face of landform would be beneficial, and phasing of extraction would need to avoid opening up views into active quarry.<br>Site falls within Source Protection Zone II and III for Little Hay public water supply, so this may constrain site layout and operation<br>Restoration has the potential to contribute to BAP and BEA objectives, and to improve habitat connectivity etc., |
| Area of Search West of A38 | This is a large and complex area, so any proposals for quarrying within the Area of Search will need detailed assessment. Those areas which have the greatest landscape sensitivity, are often also the areas of greatest historic and ecological value.<br>Wychnor Park is an area of high sensitivity to change, so high levels of landscape mitigation would be required to avoid adverse impact.<br>Some areas north of the A513 retain historic field patterns, and these should be retained where possible.<br>Careful consideration should be given to screening and buffering around Kings Bromley to ensure satisfactory visual mitigation. The phasing of any work between Kings Bromley and Alrewas will also need to be carefully considered to minimise the erosion of landscape character<br>Across the whole area, retention of small woodland blocks, riparian vegetation, hedgerows and trees will help with mitigation of visual impact, and advance planting should also be considered. |

## 1.13. Consulting on the Plan and SA report

1.13.1. An “Environmental Report”, setting out the SA process and its findings, was prepared for publication alongside the draft Mineral Local Plan and other supporting documents. Representations werer invited on the soundness of the plan, whether it was supported by an appropriate Sustainability Appraisal.

1.13.2. A planning inspector was appointed to examine the soundness of the new Minerals Local Plan, and whether the relevant procedures had been followed in its preparation, e.g the Sustainability Appraisal supports the Plan in terms of

consideration of reasonable alternatives and in considering deliverability of proposals

1.13.3. The examination process has led to a number of modifications to the Plan, and these have been incorporated into the text. The potential sustainability impacts of these modifications have been assessed , and no new adverse impacts have been identified. The assessment process is summarised in an Addendum to the Sustainability Appraisal June 2016,

## 1.14. Developing proposals for monitoring

1.14.1. The SA process has predicted the impacts of developing a range of new sites for sand and gravel production, and highlighted any mitigation that will be needed to avoid or minimise any adverse impacts, and to maximise any benefits of development. However, it also requires a monitoring system to be established in the form of a set of indicators to measure whether the actual impacts of the Plan are as predicted, and whether the proposed mitigation is effective.

1.14.2. A monitoring system has been designed to take advantage, wherever possible, of the data that are already being collected for other monitoring and reporting processes. Details can be found in the monitoring plan contained within the new Minerals Local Plan.

# Conclusions

The Sustainability Appraisal / Strategic Environmental Assessment process has run in parallel with the development of a new Minerals Local Plan for Staffordshire.

A framework for assessment has been produced, agreed with statutory consultees, and used to guide the overall process.

At each stage, the environmental implications of all of the practicable options have been systematically considered assessed and compared, and the outcome of the assessment has informed the policy options and site allocations included ion the Plan.

The public, and other interested parties have had clearly identified opportunities to comment formally on the emerging Plan. At each stage, an SA report has been published to help people to make fully informed decisions.

Following each round consultation, the implications of any revisions have been systematically assessed and reported.

The completed Report on Adoption sets out the anticipated impacts of new Minerals Local Plan, and proposes a monitoring scheme to ensure that any unexpected impacts are detected, and appropriate corrective action can be taken.

# Remaining Stages of the SEA/SA

## 1.15. Monitoring implementation of the Plan

1.15.1. Once the new Minerals Local Plan has gone through the process of examination by a Planning Inspector, and has been formally adopted by Staffordshire County Council, the SA process continues to ensure that the impacts of implementing the Plan are as expected, and that any unforeseen impacts are managed appropriately.

1.15.2. These final stages fall outside the scope of normal SA reporting, but are summarised as below:

- E1. Monitor the significant effects of the Plan
- E2. Respond to adverse effects

# Appendices

# Appendix A: Sustainability Objectives

| | Full wording of Objective [Short form in brackets] |
|---|---|
| 1 | To promote and increase re-use, recovery and recycling of alternative aggregate.<br>[Alternative aggregate] |
| 2 | To safeguard RIGS and other geologically important sites in Staffordshire and promote identification of new sites where appropriate.<br>[Safeguard RIGS] |
| 3 | To ensure an adequate supply of minerals which cater for accepted needs over a long-term horizon<br>[Maintaining supply] |
| 4 | To protect our local mineral resource supply from either short-term excavation practices or sterilisation from other developments.<br>[Protecting resource] |
| 5 | To avoid net losses of tranquil areas<br>["Tranquil" areas] |
| 6 | To reduce transportation impacts arising<br>[Transport impacts] |
| 7 | To reduce greenhouse gas emissions<br>[Greenhouse gases] |
| 8 | To contribute to present and future flood management [through watercourse and flood-plain restoration, and the development of development of flood storage and SUDS.]<br>[Flood management] |
| 9 | To protect and enhance biodiversity, especially designated sites of ecological importance, and BAP priority species and habitats.<br>[Biodiversity] |
| 10 | To ensure no reduction in quality and supply of ground and surface water resources<br>[Ground and surface waters] |
| 11 | To protect and enhance soil resources for the long-term benefit of society<br>[Soil resources] |
| 12 | To ensure that National Air Quality Standards are met at all points in the County<br>[Air Quality] |
| 13 | To conserve and enhance the historic environment, heritage assets and their settings<br>[Historic environment] |
| 14 | To maintain the supply of local building materials particularly for the repair and maintenance of traditional buildings.<br>[Local building materials] |
| 15 | To ensure that there is no downward trend in Landscape Quality.<br>[Landscape and townscape] |
| 16 | To protect and enhance recreation facilities and accessible greenspace, creating new areas where possible<br>[Recreation and greenspace] |
| 17 | To protect the health, amenity and well-being of the population and reduce inequalities in health<br>[Health, amenity and well-being] |

# Appendix B: Vision and Strategic Objectives of the new Minerals Local Plan

| Vision and Strategic Objectives | |
|---|---|
| Vision | By 2030 Staffordshire will be producing minerals to support sustainable economic development from sites that are:<br>• located where their impact on local communities and the environment has been minimised or mitigated;<br>• operating to high environmental standards; and,<br>• later restored and subject to aftercare to enhance local amenity and the environment. |
| **Vision and Strategic Objectives** | |
| Strategic Objective 1 | The provision of minerals to support sustainable economic development<br>To support sustainable economic development, the provision of minerals shall:<br>• aim to achieve an acceptable balance between the steady and adequate supply of minerals and the impact of mineral operations on local communities and the environment;<br>• so far as is practicable, take account of the contribution that substitute or secondary and recycled material can make as an alternative to primary minerals; and<br>• ensure that important economic mineral resources are not needlessly sterilised. |
| Strategic Objective 2 | Acceptable locations for mineral sites<br>To locate mineral sites where adverse impacts are avoided or minimised on local communities and the environment and any benefits are maximised. |
| Strategic Objective 3 | Operating to high environmental standards<br>To ensure that mineral sites operate to high environmental standards by avoiding, reducing or mitigating as far as possible the adverse impacts on local communities and the environment close to mineral operations and along the routes used to transport minerals. |

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| Strategic Objective 4 | Restoration that enhances local amenity and the environment<br><br>To ensure that Staffordshire's mineral sites are restored and managed in a way that enhances local amenity and the environment by:<br><br>• Restoring mineral sites at the earliest opportunity;<br><br>• Achieving high quality restoration and aftercare;<br><br>• Contributing to national and local environmental and amenity initiatives including:<br><br>o measures to manage flood risk to deliver flood risk management benefits wherever possible;<br>o measures to manage water supply, demand and quality;<br>o adapting restoration and aftercare to the effects of climate change on biodiversity and landscape;<br>o the provision of new sport and recreation facilities;<br>o measures to protect and enhance the historic environment;<br>o Local Plan strategies, policies and proposals, and local partnerships.<br><br>• Regularly reviewing restoration plans / strategies so that new opportunities to enhance the restoration and aftercare can be maximised. |

# Appendix C: Policy options tested in the SA/SEA

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 1(a): Ensuring a steady and adequate supply of aggregate minerals – level of provision of sand and gravel<br>This Issue is at the heart of the Minerals Local Plan as aggregates from sand and gravel deposits account for a large proportion of the mineral extracted in Staffordshire each year, and the policy approach taken is likely to have a significant impact on the overall impacts of the plan. In general, we would expect that the scale of most impacts to vary with the level of provision, but the choice of sites to be worked will also make a big difference. We have based our assessments on the best indications of which of the potential sites might be used to deliver the required quantities of aggregate under each scenario. There could be changes in detail as the plan develops, so the SA shows a degree of uncertainty, but we have a good indication of the likely overall pattern of impacts. | Option 1<br>Use 10 years sales average of 5.4Mtpa (Based on national policy) | As anticipated, Option 3 (3 year average – lowest total) shows the fewest potential adverse impacts, and the joint highest number of potential positive impacts, but there are severe doubts about whether it would enable the Minerals Local Plan to meet its most fundamental aim of ensuring a steady and adequate supply, and it is extremely unlikely to be considered to be a sound approach. As such, it cannot be considered to be a serious option. Option 1 (10 year average), however, achieves as many potential positive impacts as Option3, and only 2 potential adverse impacts, while also being viable as the basis of a sound plan. The potential adverse impact on SA Objectives 7 is closely linked to the amount of mineral to be produced, while that for SA Objective 10, and some of the uncertainty for SA Objectives 11, 13 and 15 (plus others, probably), is likely to be reduced by controls introduced by other policies.<br>Option 2 (WMRAWP guidelines – highest total) shows 6 potential adverse impacts, along with 3 uncertain impacts, reflecting the conclusion that the level of provision could not be delivered without extending quarrying into new areas and depending on resources that would be very hard to work without the risk of significant adverse impacts. | Overall, Options 1 appears to represent the most sustainable option to take forward into the Draft Policies |
| | Option 2<br>Use 6.7Mtpa as recommended by WMRAWP in respect of 2005 – 2020 guidelines.<br>(Reflects provision based on a past historical proportion of West Midlands sales (65%) not accounting for changes to quarries able to produce). | | |
| | Option 3<br>Use 3 years sales average of 3.8Mtpa<br>(Reflects current low sales level) | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 1(b):Ensuring a steady and adequate supply of aggregate minerals – provision for flexibility in level of provision of sand and gravel including provision of mortar/ asphalt sands.<br>This issue explores the value of making separate allocations for specific types of aggregate. Given this narrow focus, it is not surprising that none of the options under consideration for this policy are considered likely to have many significant impacts. | Option 1<br>Provide separate landbank for building/soft sands (mortar/ asphalt use). | Options 1 and 2 (landbanks for building/soft sand, and separate landbanks for bedrock and superficial deposits) bring risks of uncertain or adverse impacts in a few areas, largely reflecting the concern that they might encourage the working of mineral resources that are in areas which do not currently experience much quarrying.<br>Option 3 (criteria for exceptional circumstances) avoids much of the uncertainty by ensuring that any development of quarries to produce specialist materials would also have to meet other criteria of general acceptability. It does still leave some uncertainty over the impact on three SA objectives, but these also show potential for positive impacts. | |
| | Option 2<br>Provide separate landbanks for bedrock and superficial deposits | | |
| | Option 3<br>Establish criteria of exceptional circumstances where development may be acceptable over and above general sand and gravel landbank requirement. | | Overall, Option 3 appears to represents the most sustainable option. |
| Issue 1(c): Ensuring a steady and adequate supply of sand and gravel – strategy for identifying new reserves.<br>This issue explores different strategies for choosing additional reserves to work | Option 1<br>Preference to be given to extending permitted quarries before considering new sites. | The impacts of these policy options are concentrated on a few SA Objectives ( 2, 4-7, 14 & 15). Option 1 (favouring extensions to existing sites) appears to offer some advantage over Option 2 (no such preference) reducing some of the uncertainty over impacts and introducing 3 potential positive impacts along with one potentially adverse impact. Option 3 (considering new sites where they offer advantages of local supply) appears to offer similar advantages, though it may not strictly be an alternative as it could be applied along with either Option 1 or Option 2. | Overall, Option 1 represents the most sustainable single option, though Option 3 could be applied along with it and would bring further advantages in those situations where it is relevant. |
| | Option 2<br>No preference to be given to extensions to existing sites. | | |
| | Option 3<br>Consider new sites where the benefit of local supply to market can be demonstrated particularly where that supply supports local manufacturing of concrete products. | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 1(d): Ensuring a steady and adequate supply of sand and gravel – strategy for identifying new areas of search for additional resources<br>This issue takes the same issues a stage further, considering strategies for choosing new areas to work once the sand and gravel reserves have been effectively worked out within existing quarries particularly in the south of the county including those east of the A38 along the Trent and Tame valleys. All of the options are characterised by a level of uncertainty because the impacts will depend on the actual sites to be worked. That said, we can be confident about some general principles which should be sufficient to inform policy choices. Greater details will be added into the assessment as they become available. | Option 1<br>Define an "Area of Search", in the Trent Valley to the west of the A38, in which new mineral extraction to meet production targets will be favoured once specific sites allocated in the Minerals Local Plan have been brought into production | Option 1 (defining an "area of search" for new sand and gravel quarries in the Trent Valley west of Alrewas) offers a good level of confidence about the ability to supply the required quantity of aggregate to fulfil the Plan's obligations. By contrast, Option 2 (developing an area of search elsewhere) comes with a high risk of failure in this respect, as the only potential significant alternative area of search would be around Cannock Chase, which is highly constrained by designations for landscape, biodiversity etc. Option 3 (not giving preference to an area of search) might be able to provide the mineral, because sites could be spread across the county, but the number and nature of the likely options leaves a significant element of doubt. Option 1 performs better than the other two for SA Objectives 6 and 7, as it maintains something close to the current pattern of supply, so should avoid significant increases in transport related $CO_2$ emissions and has the potential to offer opportunities in terms of extending existing green infrastructure associated with existing quarry workings. Most other impacts are broadly similar, and though there is reason to believe that Option 3 may offer the option of creating interesting geological exposures, and Option 1 gives some potential for flood alleviation through appropriate design of restored landscapes. | Overall, however, Options 1 appears to represent the most sustainable option |
| | Option 2<br>Seek an alternative "Area of Search" in a different part of the county, capable of meeting the required production levels | | |
| | Option 3<br>Do not attempt to guide location of new quarries by identifying new areas of search. Consider each application for a new site on its own merit. | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 2(a): Ensuring a steady and adequate supply of industrial minerals – level of provision (cement minerals)<br>This issue looks at the supply of minerals to the cement industry, and is largely concerned with the extraction of shale and limestone in the immediate vicinity of the cement works at Cauldon, and also the mining of anhydrite at Fauld. | Option 1<br>Provide for 15 years landbank for minerals extracted for the purposes of cement manufacture. | The impacts of **both policy options** (15 and 25 year landbank) are confined to 6 SA Objectives (3, 5, 6, 9, 10 and 15), with almost nothing to separate them. Whilst **both policy options** bring a clear benefit in terms of security of supply (clearly longer for **Option 2** – 25 years), and are likely to offer lower transport impacts by keeping supplies close to the manufacturing plant (again longer for **Option 2**) , negative impacts are also expected. Expansion of the current quarries, which benefit from a historic permission, will inevitably lead to incursion into the neighbouring SSSI, though mitigation has been carefully planned. There may also be adverse impacts on landscape and tranquil areas as the quarry workings extend, though again these will be controlled as much as possible.<br>Strictly, the impacts of ensuring a 25 year supply would be greater than ensuring a 15 year supply, giving **Option 1** a slight advantage over **Option 2**. It is reasonable to expect that, regardless of the option chosen for this Plan, mineral workings will actually continue well beyond 25 years. Under these circumstances, planning further ahead (**Option 2**) could offer the best opportunities for adverse impacts to be mitigated. | |
| | Option 2<br>Provide for 25 years landbank for minerals extracted for the purposes of cement manufacture. | | Overall, **Option 2** may represent a slightly more sustainable option. |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 2(b): Ensuring a steady and adequate supply of industrial minerals – level of provision (brick clays))<br>This issue addresses the supply of clay for brick and tile making - a mineral resource that is becoming scarcer. Options 1 (Plan for 25 year supply) and Option 2 (plan for 15 year supply)are clear alternative policies, while Option 3 (encouraging stockpiling of clay that might otherwise be sterilised by other development) represents an additional policy that could be implemented along with either Option 1 or Option 2. | Option 1<br>Provide for 25 years landbank for each of the following works:<br>• Parkhouse<br>• Chesterton<br>• Keele<br>• Wilnecote<br>• Lodge Lane<br>• Warstones Road | There is little to separate Options 1 and 2, both are characterised by a level of uncertainty over their impacts. In general, this reflects uncertainty over the exact sites that might be required or how they would be worked. The greater quantity of clay that would be required to provide for the longer, 25 year, landbank means that the potential adverse impacts would be expected to be greater for Option 1.<br>Both Options 1 and 2 make clear contributions towards ensuring a steady supply of mineral, though Option 1 goes further. Both make some contribution to protecting resources, but the location of the clay reserves, and the pressure to accommodate other development in the area, mean that Option 2 may be less certain to deliver the required outcome.<br>Option 3 deals with the specific situation of minerals secured through a requirement of prior extraction ahead of non-mineral development that would otherwise have sterilised the resource. As drafted, the policy offers clear advantages in terms of maintaining the supply and protecting resources (SA Objectives 3 and 4). There may, however, be questions over its deliverability, as prior extraction could be environmentally difficult, delays development, and may struggle to produce a mineral product that can easily be used. | Overall, Options 1 appears to represent the most sustainable option, though Option 3 has the potential to add to its effectiveness. |
| | Option 2<br>Provide for 15 years landbank for each of the following works:<br>• Parkhouse<br>• Chesterton<br>• Keele<br>• Wilnecote<br>• Lodge Lane<br>• Warstones Road | | |
| | Option 3<br>In addition to options 1 or 2 above, provide minerals needed for a clay blend e.g. fireclays or clays secured through prior extraction. | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 3(a) Safeguarding mineral resources from sterilisation caused by built development<br>This issue deals with the problem of built development preventing future access to mineral resources that lie beneath. | Option 1<br>To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>Based on importance and likelihood of significant sterilisation from built development. | Both Options 1 (safeguarding only the 3 most important minerals) and Option 2 (Safeguarding 7 key minerals) offer benefits in terms of protecting resources and maintaining the supply of minerals (SA Objectives 3 and 4), though Option 2 offers a more certain impact as a result of the wider range of minerals covered. The inclusion of building stone from the Hollington Formation on the list of minerals to be safeguarded under Option 2 also brings the potential for a positive contribution to SA Objective 14, and suggests that this should be the preferred option.<br>Option 3 (also safeguarding coating and batching plants) addresses the distinct, but related issue of safeguarding the plant sites which convert aggregate into the key products of tarmac and ready-mixed concrete. It offers some protection against the risk of aggregate or processed product having to be transported over longer distances if processing plant is lost, but the scale of the risk and the impact is very hard to estimate. There could also be some protection against the risk of an increase in greenhouse gas emissions resulting from transport, though this is even less predictable. | |
| | Option 2<br>To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Limestone<br>• Silica sand (associated with Rough Rock Formation)<br>• Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>• Coal<br>• Building stones from Hollington Formation.<br>Based on importance and likelihood of threats from built development. | | Overall, Option 2 represents the most sustainable option. Option 3 could also bring some benefits if applied in conjunction with Option 2, but such benefits would be hard to quantify. |
| | Option 3<br>In addition to safeguarding mineral resources, safeguard sites with coating, batching or concrete product manufacturing plants from other development | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 4(a) Minimising the environmental impact of mineral operations – Impacts associated with drilling for hydrocarbons<br>This issue concentrates on the impacts associated with drilling for hydrocarbons. Option 1 proposes a policy for assessing locations for hydrocarbon extraction and, rather than being direct alternatives, Options 2 (assessment policy based on constraints) and Option 3 (local policy to encourage exploration) represent additional elements that could be added to a final policy | Option 1<br>Policy required to assess locations for hydrocarbon extraction (refer to guidance July 2013) including policies for each phase of development. | This issue concentrates on the impacts associated with drilling for hydrocarbons. Option 1 proposes a policy for assessing locations for hydrocarbon extraction and, rather than being direct alternatives, Options 2 (assessment policy based on constraints) and Option 3 (local policy to encourage exploration) represent additional elements that could be added to a final policy. In its basic form, Option 1 may impact on up to 9 SA Objectives. Though most of these impacts are uncertain, those for SA Objectives 5 and 15 (tranquil areas and landscape/townscape) are more likely to be negative if they arise. Option 2 attempts to identify specific constraints for potential extraction areas, and this has the effect of reducing the uncertainty about the impacts, moving all of them to potential positive impacts as applications with negative impacts would be screened out. Option 3 would add a local policy to encourage exploration for hydrocarbons but it was judged that this would be unlikely to have any significant impact as such exploration is already clearly supported by national policies. | |
| | Option 2<br>As per option 1 but identifying constraints on potential production areas (refer to plan of licence areas) | | Overall, Options 2 (Option1 with Option 2) appears to represents the most sustainable option. |
| | Option 3<br>Add local policy to encourage exploration of hydrocarbon resources. | | |
| Issue 5(a): Minimising the environmental impact of mineral operations – managing cumulative impacts.<br>This issue looks at approaches to managing cumulative impact where several mineral sites operate in the same area. | Option 1<br>Identify current/ potential areas of concentrated working, cumulative impacts and mitigation measures that need to be taken into account. | As would be expected, the SA shows the main potential impacts focussed on those SA objectives most susceptible to cumulative impacts (5, 6, 7, 15 and 17). There is a level of uncertainty over impacts, though each of the 3 Options is expected to bring about clear community benefits. Option 1 (identifying current and future areas of concentrated working) has the least certainty of delivering positive outcomes, largely because the details of the policy option have yet to be developed so the scale of the impact cannot | |
| | Option 2<br>Define cumulative impact and consider appropriate mitigation measures. Relate to impacts associated with mineral type e.g. long term workings associated with hard rock and clay quarries and short term workings in river gravels. | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| | Option 3<br>As 2, but as part of environmental criteria policy against which planning applications will be assessed and meets the requirements of Para 143 of the NPPF | be fully assessed. Option 2 (defining cumulative impacts) provides a bit more certainty at this stage, so we can be reasonably confident that landscape impacts will be positive, though other impacts are still unclear. Option 3 (defining cumulative impact within the context of wider environmental criteria) also gives confidence over the nature of the impact for SA Objective 5 (Tranquil areas). | Overall, Options 3 appears to offer the greatest confidence of positive outcomes, and represents the most sustainable option, though other options may also perform well in conjunction with other policies aimed at controlling adverse impacts. |
| Issue 5(b) Minimising the environmental impact of mineral operations – Transport of minerals.<br>This issue explores approaches to controlling the impacts of transporting minerals | Option 1<br>Review requirements of saved policy 30 of MLP | The impacts of both options are confined to a few key SA Objectives. Option 1(policy based on saved policy 30) appears to offer clear benefits in terms of reducing transport emissions and avoiding adverse impacts on heath and amenity (SA Objectives 6 & 17), with possible benefits for preserving tranquil areas and meeting air quality standards (SA Objectives 5 & 12). There could also be impacts on greenhouse gas emissions (SA Objective 7), though these are hard to predict at this stage. Option 2 (safeguarding rail infrastructure) offers possible benefits in terms of controlled transport impacts and greenhouse gas emissions (SA Objectives 6 & 7) though the proportion of mineral that could be transported by rail would always be small. There may also be impacts on biodiversity, historic environment and recreation / greenspace(SA Objectives 9, 13 & 16), but these could be negative, as opening up currently disused railway lines to mineral transport might reduce their suitability for other purposes. | Overall, Options 1 represents the most sustainable option, though Option 2 is not a direct alternative and could be implemented in parallel. |
| | Option 2<br>Safeguard existing rail infrastructure that could be used in association with mineral development e.g. Cauldon and Silverdale rail lines | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 5(c): Minimising the environmental impact of mineral operations – Protection of sites of ecological and cultural value.<br>This issue discusses how sites of ecological or cultural value might be protected. | Option 1<br>Protect sites as per policy 4.2 of the Waste Local Plan | Option 1 (using a policy based on the recently adopted Waste Local Plan) offers the potential for positive impacts for 10 of the SA Objectives, and no significant impacts on the remaining 7. Option 2 (defining criteria for assessing impacts), however, provides much less certainty about the outcomes. Potential positive impacts are still recorded for SA Objectives 9 and 13, reflecting the specific references to ecological and cultural value within the wording of the policy option, but most of the other impacts are assessed as uncertain, because they would depend on how the criteria for conserving ecological and cultural value impacted on other SA Objectives. | Overall, Option 1 appears to represent the most sustainable option as drafted, though it is possible that criteria could be developed under Option 2 that would increase confidence of more positive outcomes. |
| | Option 2<br>Define criteria against which proposals will be judged that affect sites of ecological and cultural value. | | |
| Issue 5(d): Minimising the environmental impact of mineral operations – timescales for the review of minerals.<br>This issue explores how review dates should be determined, rather than what a review should address. As such, direct impacts are likely to be minimal. | Option 1<br>Determine a basis for review dates within Plan | This issue explores how review dates should be determined, rather than what a review should address. As such, direct impacts are likely to be minimal. For Option 1 (relying on setting a review date within the Minerals Local Plan) the only impact is expected to be a clear positive contribution to maintaining mineral supplies. Option 2 (tying the review of the plan to environmental criteria) however, opens up the potential for positive impacts across most of the SA Objectives. | |
| | Option 2<br>In setting environmental criteria for assessing applications, highlight opportunity to review and provide link for subsequent SPD | | Overall, Option 2 appears to represent the most sustainable option, though slight modifications could be made to increase the certainty of delivering positive outcomes for selected SA Objectives. |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 6(a): Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place – restoration involving the backfill of wastes.<br>This issue considers approaches to restoration of former quarries through infilling with waste. The options here have the potential to impact on a wide range of SA Objectives, either directly through the restoration schemes that they would promote, or through the choices of quarry locations that they would encourage. | Option 1<br>Prefer proposals where reclamation can be achieved without backfill. | Option 1 (favouring new sites that do not require backfilling) could be reasonably expected to bring about positive impacts by encouraging aggregate recycling, reducing CO2 emissions (from transporting infill material) and leaving voids that could play a role in flood defence (SA Objectives 1, 7 & 8). There would, however, be likely to be adverse impacts as it would be difficult to retain best and most versatile soils, or to mitigate the adverse impact of some former quarries o the landscape. There would also be a wide range of SA Objectives where impacts may arise if Option 1 significantly changed the range of sites worked. Such impacts would also be influenced by many other policies, so specific effects would be hard to judge.<br>By contrast, Option 2 (planning for backfilling where required) could make a more positive contribution to maintaining landscape quality and BMV soils (SA Objectives 11 & 15), yet the impact on the use of alternative aggregates, greenhouse gas emissions, or flood management is less certain than for Option 1. | Overall, each option has some merit, and the most sustainable way forward would be to adopt a combined approach, moving away from large scale backfilling wherever possible, yet retaining the option to backfill where there is a specific justification to do so . |
| | Option 2<br>Plan for sustainable backfilling where viable and necessary. | | |

| Issues | Policy Options | Summary of Assessment | Comments |
|---|---|---|---|
| Issue 6(b): Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place – guaranteeing high quality reclamation of quarries.<br>This issue looks at options for guaranteeing high quality restoration of quarries. The impacts of both options are confined to a small number of SA Objectives (8-11 & 15-17) which are likely to be affected by restoration. | Option 1<br>Define local standards for high quality reclamation of mineral workings. | Option 1 (defining local standards for restoration) offers the potential for positive impacts for all of these objectives, though the final outcome would be heavily dependent on the content of the local standards that the policy option promises. Option 2(focussing on opportunities for improving biodiversity through restoration), by contrast, would focus on ensure a positive outcome for SA Objective 9, but leave other outcomes less predictable. It seems reasonable to expect that a biodiversity led restoration scheme would have the potential to produce positive outcomes for most of the sensitive SA Objectives, but there may be a specific conflict with SA Objective 11 as biodiversity-led restoration is unlikely to prioritise the retention of best and most versatile soils. | Overall, either option could be argued to represent a sustainable approach. There may, however, be potential to develop a better option, based on the findings of the assessment. |
| | Option 2<br>Focus on opportunities for biodiversity through reclamation of mineral workings | | |

# Appendix D: Details of assessment of policy options

## Issue 1(a): Ensuring a steady and adequate supply of aggregate minerals – level of provision of sand and gravel

We need to plan for sufficient sand and gravel to meet the needs of construction to provide infrastructure and buildings.

National policy requires that the Plan should make provision for land won aggregates and in Staffordshire the key challenge for provision relates to aggregates derived from sand and gravel deposits. Associated with this issue is whether separate provision should be made for the dry working of soft sands used for producing mortar and asphalt.

| **Draft Policy 1(a): Level of provision of sand and gravel** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1:<br>Use 10 years sales average of 5.4Mtpa<br>(Based on national policy)<br>[10 year average] | ?+ | ?+ | + | 0 | ?+ | ?+ | ?- | ?+ | ?+ | ?- | ? | ?+ | ? | 0 | ? | ?+ | 0 |
| Option 2<br>Use 6.7Mtpa as recommended by WMRAWP in respect of 2005 – 2020 guidelines.<br>(Reflects provision based on a past historical proportion of West Midlands sales (65%) not accounting for changes to quarries able to produce).<br>[WMRAWP Guidelines] | ? | ?+ | + | 0 | ?- | ?- | ?- | ?+ | ? | ?- | ?- | ?+ | ? | 0 | ?- | ? | 0 |
| Option 3<br>Use 3 years sales average of 3.8Mtpa<br>(Reflects current low sales level)<br>[3 year average] | ?+ | ?+ | ?- | 0 | ?+ | ?+ | ?+ | 0 | ?+ | ? | ? | ?+ | ? | 0 | ? | ?+ | 0 |

Comments

Issue 1(a) is at the heart of the Minerals Local Plan as aggregates from sand and gravel deposits account for a large proportion of the mineral extracted in Staffordshire each year, and the policy approach taken is likely to have a significant impact on the overall impacts of the plan. In general, we would expect that the scale of most impacts to vary with the level of provision, but the choice of sites to be worked will also make a big difference. We have based our assessments on the best indications of which of the potential sites might be used to deliver the required quantities of aggregate under each scenario. There could be changes in detail as the plan develops, so the SA shows a degree of uncertainty, but we have a good indication of the likely overall pattern of impacts.

As anticipated, Option 3 (3 year average – lowest total) shows the fewest potential adverse impacts, and the joint highest number of potential positive impacts, but there are severe doubts about whether it would enable the Minerals Local Plan to meet its most fundamental aim of ensuring a steady and adequate supply, and it is extremely unlikely to be considered to be a sound approach. As such, it cannot be considered to be a serious option. Option 1 (10 year average), however, achieves as many potential positive impacts as Option3, and only 2 potential adverse impacts, while also being viable as the basis of a sound plan. The potential adverse impact on SA Objectives 7 is closely linked to the amount of mineral to be produced, while that for SA Objective 10, and some of the uncertainty for SA Objectives 11, 13 and 15 (plus others, probably), is likely to be reduced by controls introduced by other policies.

Option 2 (WMRAWP guidelines – highest total) shows 6 potential adverse impacts, along with 3 uncertain impacts, reflecting the conclusion that the level of provision could not be delivered without extending quarrying into new areas and depending on resources that would be very hard to work without the risk of significant adverse impacts.

Overall, Options 1 appears to represent the most sustainable option to take forward into the Draft Policies.

**Issue 1(b): Ensuring a steady and adequate supply of aggregate minerals – provision for flexibility in level of provision of sand and gravel including provision of mortar/ asphalt sands.**

National policy requires that the Plan should make provision for land won aggregates and in Staffordshire the key challenge for provision relates to aggregates derived from sand and gravel deposits. Associated with this issue is whether separate provision should be made for the dry working of soft sands used for producing mortar and asphalt.

| **Draft Policy 1(b): Provision for flexibility in level of provision of sand and gravel including provision of mortar/ asphalt sands.** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Provide separate landbank for building/soft sands (mortar/ asphalt use).<br>[Landbank for building/soft sands] | 0 | ?+ | ? | ? | ?- | ?- | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Option 2<br>Provide separate landbanks for bedrock and superficial deposits<br>[Landbanks for bedrock and superficial deposits] | 0 | 0 | ? | ? | ?- | ?- | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?- | ?- | 0 |
| Option 3<br>Establish criteria of exceptional circumstances where development may be acceptable over and above general sand and gravel landbank requirement.<br>[Criteria of exceptional circumstances] | 0 | 0 | 0 | 0 | 0 | ?+ | ?+ | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | 0 | 0 | 0 |

Comments

Issue 1(b) explores the value of making separate allocations for specific types of aggregate. Given this narrow focus, it is not surprising that none of the options under consideration for this policy are considered likely to have many significant impacts. Options 1 and 2 (landbanks for building/soft sand, and separate landbanks for bedrock and superficial deposits) bring risks of uncertain or adverse impacts in a few areas, largely reflecting the concern that they might encourage the working of mineral resources that are in areas which do not currently experience much quarrying. Option 3 (criteria for exceptional circumstances) avoids much of the uncertainty by ensuring that any development of quarries to produce specialist materials would also have to meet other criteria of general acceptability. It does still leave three areas where there is still some uncertainty, but these show potential for positive impacts.

Overall, Option 3 appears to represents the most sustainable option.

## Issue 1(c): Ensuring a steady and adequate supply of sand and gravel – strategy for identifying new reserves

We need to plan for sufficient sand and gravel to meet the needs of construction to provide infrastructure and buildings.

National policy requires that the Plan should make provision for in the form of specific sites, preferred areas and/ or areas of search and locational criteria as appropriate. The current Plan carried forward an earlier approach to identifying new sand and gravel resources which is to concentrate workings in specified locations by either developing new sites or more particularly extending existing sites where it would be environmentally acceptable. Principles for this strategy need to be reviewed.

| **Draft Policy 1(c): Strategy for identifying new reserves** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Preference to be given to extending permitted quarries before considering new sites.<br>[Preference for extensions] | 0 | ? | 0 | ?+ | ?+ | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | 0 | 0 |
| Option 2<br>No preference to be given to extensions to existing sites.<br>[No preference for extensions] | 0 | ? | 0 | 0 | ? | ? | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ? | 0 | 0 |
| Option 3<br>Consider new sites where the benefit of local supply to market can be demonstrated particularly where that supply supports local manufacturing of concrete products.<br>[New sites for local supply] | 0 | ? | 0 | 0 | ? | ?+ | ?+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ? | 0 | 0 |

Comments

Issue 1(c) explores different strategies for choosing additional reserves to work. The impacts of these policy options are concentrated on a few SA Objectives ( 2, 4-7, 14 & 15). Option 1 (favouring extensions to existing sites) appears to offer some advantage over Option 2 (no such preference) reducing some of the uncertainty over impacts and introducing 3 potential positive impacts along with one potentially adverse impact. Option 3 (considering new sites where they offer advantages of local supply) appears to offer similar advantages, though it may not strictly be an alternative as it could be applied along with either Option 1 or Option 2.

Overall, Option 1 represents the most sustainable single option, though Option 3 could be applied along with it and would bring further advantages in those situations where it is relevant.

## Issue 1(d): Ensuring a steady and adequate supply of aggregate minerals – strategy for identifying new areas of search for additional resources.

The current pattern of supply of aggregate minerals is heavily dependent on the Trent and Tame valleys, with an established strategy restricting development to the west of the A38, but the resource in this area is diminishing, and it will not be sufficient to meet anticipated demand for sand and gravel for the whole plan period. This issue explores approaches to finding new sites when the current strategy can no-longer provide a solution.

| **Issue 1(d): Strategy for identifying new areas of search for additional resources.** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Define an "Area of Search", in the Trent Valley to the west of the A38, in which new mineral extraction to meet production targets will be favoured once specific sites allocated in the Minerals Local Plan have been brought into production.<br>[Area of search west of A38] | 0 | 0 | + | 0 | 0 | 0 | 0 | ?+ | ?- | ?- | ?- | 0 | ?- | 0 | - | ? | 0 |
| Option 2<br>Seek an alternative "Area of Search" in a different part of the county, capable of meeting the required production levels<br>[Seek area of search elsewhere] | 0 | 0 | ?- | 0 | 0 | ?- | ?- | 0 | ?- | ?- | ?- | ?- | ?- | 0 | - | ?- | 0 |
| Option 3<br>Do not attempt to guide location of new quarries by identifying new areas of search. Consider each application for a new site on its own merit.<br>[No preference for an area of search] | 0 | ?+ | ? | 0 | 0 | ?- | ?- | 0 | ?- | ?- | ?- | ? | ?- | 0 | - | ? | 0 |

Comments

Issue 1(d) takes the same issues a stage further, considering strategies for choosing new areas to work once the sand and gravel reserves have been effectively worked out within existing quarries particularly in the south of the county including those east of the A38 along the Trent and Tame valleys. All of the options are characterised by a level of uncertainty because the impacts will depend on the actual sites to be worked. That said, we can be confident about some general principles which should be sufficient to inform policy choices. Greater details will be added into the assessment as they become available.

Option 1 (defining an "area of search" for new sand and gravel quarries in the Trent Valley west of Alrewas) offers a good level of confidence about the ability to supply the required quantity of aggregate to fulfil the Plan's obligations. By contrast, Option 2 (developing an area of search elsewhere) comes with a high risk of failure in this respect, as the only potential significant alternative area of search would be around Cannock Chase, which is highly constrained by designations for landscape, biodiversity etc. Option 3 (not giving preference to an area of search) might be able to provide the mineral, because sites could be spread across the county, but the number and nature of the likely options leaves a significant element of doubt. Option 1 performs better than the other two for SA Objectives 6 and 7, as it maintains something close to the current pattern of supply, so should avoid significant increases in transport related CO2 emissions and has the potential to offer opportunities in terms of extending existing green infrastructure associated with existing quarry workings. Most other impacts are broadly similar, and though there is reason to believe that Option 3 may offer the option of creating interesting geological exposures, and Option 1 gives some potential for flood alleviation through appropriate design of restored landscapes.

Overall, however, Options 1 appears to represent the most sustainable option.

## Issue 2(a): Ensuring a steady and adequate supply of industrial minerals – level of provision (cement minerals)

We need to plan for maintaining the supply of limestone and shale for the production of cement at the Cauldon works (one of 11 works in the UK).

National policy requires that a stock of permitted reserves sufficient to support at least 15 years production is provided to maintain existing plant.

Similarly, gypsum rock which is produced from Fauld Mine is used as an additive in cement manufacture and a landbank of 15 years is used to plan for steady and adequate reserves.

| **Draft Policy 2(a): Level of provision (cement minerals)** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Provide for 15 years landbank for minerals extracted for the purposes of cement manufacture.<br>[15 years landbank] | 0 | 0 | + | 0 | ?- | ? | ? | 0 | ?- | ? | 0 | 0 | 0 | 0 | ?- | 0 | 0 |
| Option 2<br>Provide for 25 years landbank for minerals extracted for the purposes of cement manufacture.<br>[25 years landbank] | 0 | 0 | + | 0 | ?- | ?+ | ? | 0 | ?- | ? | 0 | 0 | 0 | 0 | ?- | 0 | 0 |

Comments

Issue 2(a) looks at the supply of minerals to the cement industry, and is largely concerned with the extraction of shale and limestone in the immediate vicinity of the cement works at Cauldon, and also the mining of anhydrite at Fauld. The impacts of both policy options (15 and 25 year landbank) are confined to 6 SA Objectives (3, 5, 6, 9, 10 and 15), with almost nothing to separate them. Whilst both policy options bring a clear benefit in terms of security of supply (clearly longer for Option 2 – 25 years), and are likely to offer lower transport impacts by keeping supplies close to the manufacturing plant (again longer for Option 2) , negative impacts are also expected. Expansion of the current quarries, which benefit from a historic permission, will inevitably lead to incursion into the neighbouring SSSI, though mitigation has been carefully planned. There may also be adverse impacts on landscape and tranquil areas as the quarry workings extend, though again these will be controlled as much as possible.

Strictly, the impacts of ensuring a 25 year supply would be greater than ensuring a 15 year supply, giving Option 1 a slight advantage over Option 2. It is reasonable to expect that, regardless of the option chosen for this Plan, mineral workings will actually continue well beyond 25 years. Under these circumstances, planning further ahead (Option 2) could offer the best opportunities for adverse impacts to be mitigated.

Overall, Option 2 may represent a slightly more sustainable option.

| **Issue 2(b): Ensuring a steady and adequate supply of industrial minerals – level of provision (brick clays)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| We need to plan for maintaining the supply of clay for the manufacture of bricks, tiles and other products at works in Staffordshire and elsewhere. National policy requires that a stock of permitted reserves sufficient to support at least 25 years production is provided to support a new kiln. | | | | | | | | | | | | | | | | | |
| **Draft Policy 2(b): Level of provision (brick clays)** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Provide for 25 years landbank for each of the following works:<br>• Parkhouse<br>• Chesterton<br>• Keele<br>• Wilnecote<br>• Lodge Lane<br>• Warstones Road<br>[25 years landbank] | **0** | **0** | **+** | **+** | **?-** | **?** | **?** | **0** | **?-** | **?** | **?** | **?** | **?** | **0** | **?-** | **?** | **0** |
| Option 2<br>Provide for 15 years landbank for each of the following works:<br>• Parkhouse<br>• Chesterton<br>• Keele<br>• Wilnecote<br>• Lodge Lane<br>• Warstones Road.<br>[15 years landbank] | **0** | **0** | **+** | **?+** | **?-** | **?** | **?** | **0** | **?-** | **?** | **?** | **?** | **?** | **0** | **?-** | **?** | **0** |
| Option 3<br>In addition to options 1 or 2 above, provide minerals needed for a clay blend e.g. fireclays or clays secured through prior extraction.<br>[Landbank and policy to encourage stockpiling] | **0** | **0** | **+** | **+** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

Comments

Options 1 and 2 are clear alternative policies, while Option 3 represents an additional policy that could be implemented along with either Option 1 or Option 2.

2.6.16. There is little to separate Options 1 and 2, both are characterised by a level of uncertainty over their impacts. In general, this reflects uncertainty over the exact sites that might be required or how they would be worked. The greater quantity of clay that would be required to provide for the longer, 25 year, landbank means that the potential adverse impacts would be expected to be greater for Option 1.

Both Options 1 and 2 make clear contributions towards ensuring a steady supply of mineral, though Option 1 goes further. Both make some contribution to protecting resources, but the location of the clay reserves, and the pressure to accommodate other development in the area, mean that Option 2 may be less certain to deliver the required outcome.

Option 3 deals with the specific situation of minerals secured through a requirement form prior extraction ahead of development that would otherwise have sterilised the resource. As drafted, the policy offers clear advantages in terms of maintaining the supply and protecting resources (SA Objectives 3 and 4). There may, however, be questions over the deliverability of the policy as prior extraction is expensive, causes delays, and may struggle to produce a mineral product that can easily be used.

Overall, Options 1 appears to represent the most sustainable option, though Option 3 has the potential to add to its effectiveness.

| **Associated Issue 3(a): Safeguarding mineral resources from sterilisation caused by built development** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| National policy requires that mineral safeguarding areas are defined for specific mineral resources of national and local importance so that they are needlessly sterilised by built development.<br>Particular issues of mineral sterilisation have occurred in relation to clay and sand and gravel resources. | | | | | | | | | | | | | | | | | |
| **Draft Policy 3(a):**<br>**Safeguarding mineral resources from sterilisation caused by built development** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>Based on importance and likelihood of significant sterilisation from built development.<br>[Safeguard 3 key minerals] | 0 | 0 | ?+ | + | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Option 2<br>To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Limestone<br>• Silica sand (associated with Rough Rock Formation)<br>• Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>• Coal<br>• Building stones from Hollington Formation.<br>Based on importance and likelihood of threats from built development.<br>[Safeguard 7 minerals] | 0 | 0 | + | + | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Option 3<br>In addition to safeguarding mineral resources, safeguard sites with coating, batching or concrete product manufacturing plants from other development<br>[Also safeguard coating and batching plants] | 0 | 0 | 0 | 0 | 0 | ?+ | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Comments

Issue 3 deals with the problem of built development preventing future access to mineral resources that lie beneath. Both Options 1 (safeguarding only the 3 most important minerals) and Option 2 (Safeguarding 7 key minerals) offer benefits in terms of protecting resources and maintaining the supply of minerals (SA Objectives 3 and 4), though Option 2 offers a more certain impact as a result of the wider range of minerals covered. The inclusion of building stone from the Hollington Formation on the list of minerals to be safeguarded under Option 2 also brings the potential for a positive contribution to SA Objective 14, and suggests that this should be the preferred option.

Option 3 (also safeguarding coating and batching plants) addresses the distinct, but related issue of safeguarding the plant sites which convert aggregate into the key products of tarmac and ready-mixed concrete. It offers some protection against the risk of aggregate or processed product having to be transported over longer distances if processing plant is lost, but the scale of the risk and the impact is very hard to estimate. There could also be some protection against the risk of an increase in greenhouse gas emissions resulting from transport, though this is even less predictable.

Overall, Option 2 represents the most sustainable option. Option 3 could also bring some benefits if applied in conjunction with Option 2, but such benefits would be hard to quantify.

## Issue 4(a): Minimising the environmental impact of mineral operations – Impacts associated with drilling for hydrocarbons

With interest in drilling for gas associated with coal seams, there is a need to consider assessing impacts specifically associated with drilling operations and the different phases of development associated with the exploitation of gas resources.

| **Draft Policy 4(a): Impacts associated with drilling for hydrocarbons** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Policy required to assess locations for hydrocarbon extraction (refer to guidance July 2013) including policies for each phase of development.<br>[Policy to asses locations for extraction] | 0 | 0 | 0 | 0 | ?- | ? | ? | 0 | ? | ? | 0 | 0 | ? | 0 | ?- | ? | ? |
| Option 2<br>As per option 1 but identifying constraints on potential production areas (refer to plan of licence areas)<br>[Assessment policy based on constraints] | 0 | 0 | 0 | 0 | ?+ | ?+ | 0 | 0 | ?+ | ?+ | 0 | 0 | ?+ | 0 | ?+ | ?+ | ?+ |
| Option 3<br>Add local policy to encourage exploration of hydrocarbon resources.<br>[Add local policy to encourage exploration] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Comments

Issue 4 concentrates on the impacts associated with drilling for hydrocarbons. Option 1 proposes a policy for assessing locations for hydrocarbon extraction and, rather than being direct alternatives, Options 2 (assessment policy based on constraints) and Option 3 (local policy to encourage exploration) represent additional elements that could be added to a final policy. In its basic form, Option 1 may impact on up to 9 SA Objectives. Though most of these impacts are uncertain, those for SA Objectives 5 and 15 (tranquil areas and landscape/townscape) are more likely to be negative if they arise. Option 2 attempts to identify specific constraints for potential extraction areas, and this has the effect of reducing the uncertainty about the impacts, moving all of them to potential positive impacts as applications with negative impacts would be screened out. Option 3 would add a local policy to encourage exploration for hydrocarbons but it was judged that this would be unlikely to have any significant impact as such exploration is already clearly supported by national policies.

Overall, Options 2 (Option1 with Option 2) appears to represents the most sustainable option.

**Issue 5(a): Minimising the environmental impact of mineral operations – managing cumulative impacts**
**(Prepared by MSG)**

Areas of the county are subject to cumulative impacts associated with mineral working. The approach of comprehensively working resources in a locality could cause adverse cumulative impacts if not properly managed.

| **Draft Policy 5(a): Managing cumulative impacts** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Identify current/ potential areas of concentrated working, cumulative impacts and mitigation measures that need to be taken into account.<br>[Identify current/ potential areas of concentrated working] | 0 | 0 | 0 | 0 | ? | ? | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ? | 0 | + |
| Option 2<br>Define cumulative impact and consider appropriate mitigation measures. Relate to impacts associated with mineral type e.g. long term workings associated with hard rock and clay quarries and short term workings in river gravels.<br>[Define cumulative impact] | 0 | 0 | 0 | 0 | ? | ? | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | 0 | + |
| Option 3<br>As 2, but as part of environmental criteria policy against which planning applications will be assessed and meets the requirements of Para 143 of the NPPF<br>[As 2, but as part of environmental criteria policy] | 0 | 0 | 0 | 0 | ?+ | ? | ? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | 0 | + |

Comments

Issue 5(a) looks at approaches to managing cumulative impact where several mineral sites operate in the same area. As would be expected, the SA shows the main potential impacts focussed on those SA objectives most susceptible to cumulative impacts (5, 6, 7, 15 and 17). There is a high level of uncertainty over impacts, though each of the 3 Options is expected to bring about clear community benefits. Option 1 (identifying current and future areas of concentrated working) has the least certainty of delivering positive outcomes, largely because the details of the policy option have yet to be developed so the scale of the impact cannot be fully assessed. Option 2 (defining cumulative impacts) provides a bit more certainty at this stage, so we can be reasonably confident that landscape impacts will be positive, though other impacts are still unclear. Option 3 (defining cumulative impact within the context of wider environmental criteria) also gives confidence over the nature of the impact for SA Objective 5 (Tranquil areas).

Overall, Options 3 appears to offer the greatest confidence of positive outcomes, and represents the most sustainable option, though other options may also perform well in conjunction with other policies aimed at controlling adverse impacts.

**Issue 5(b): Minimising the environmental impact of mineral operations – Transport of minerals**

National policy requires that the use of sustainable transport modes is maximised and encourage solutions that reduce greenhouse gas emissions.

| **Draft Policy 5(b): Transport of minerals** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Review requirements of saved policy 30 of MLP<br>[Review saved policy 30] | 0 | 0 | 0 | 0 | ?+ | + | ? | 0 | 0 | 0 | 0 | ?+ | 0 | 0 | 0 | 0 | + |
| Option 2<br>Safeguard existing rail infrastructure that could be used in association with mineral development e.g. Cauldon and Silverdale rail lines<br>[Safeguard existing rail infrastructure] | 0 | 0 | 0 | 0 | 0 | ?+ | ?+ | 0 | ? | 0 | 0 | 0 | ? | 0 | 0 | ? | 0 |

Comments

Issue 5(b) explores approaches to controlling the impacts of transporting minerals. The impacts of **both options** are confined to a few key SA Objectives. **Option 1**(policy based on saved policy 30) appears to offer clear benefits in terms of reducing transport emissions and avoiding adverse impacts on heath and amenity (SA Objectives 6 & 17), with possible benefits for preserving tranquil areas and meeting air quality standards (SA Objectives 5 & 12). There could also be impacts on greenhouse gas emissions (SA Objective 7), though these are hard to predict at this stage. **Option 2** (safeguarding rail infrastructure) offers possible benefits in terms of controlled transport impacts and greenhouse gas emissions (SA Objectives 6 & 7) though the proportion of mineral that could be transported by rail would always be small. There may also be impacts on biodiversity, historic environment and recreation / greenspace(SA Objectives 9, 13 & 16), but these could be negative, as opening up currently disused railway lines to mineral transport might reduce their suitability for other purposes.

Overall, Options 1 represents the most sustainable option, though Option 2 is not a direct alternative and could be implemented in parallel.

## Issue 5(c): Minimising the environmental impact of mineral operations – Protection of sites of ecological and cultural value

National policy (Para 113) requires that policies include criteria for assessing proposals affecting wildlife or geodiversity sites or landscape areas. Distinctions need to be made between the hierarchy of international, national and locally designated sites.

| **Draft Policy 5(c): Protection of sites of ecological and cultural value** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Protect sites as per policy 4.2 of the JWLP<br>[Use modified Policy 4.2 of JWLP] | 0 | ?+ | 0 | 0 | 0 | 0 | 0 | ?+ | ?+ | ?+ | ?+ | ?+ | ?+ | 0 | ?+ | ?+ | ?+ |
| Option 2<br>Define criteria against which proposals will be judged that affect sites of ecological and cultural value.<br>[Define criteria for assessing impacts] | 0 | ? | 0 | 0 | ? | ? | ? | ? | ?+ | ? | ? | ? | ?+ | 0 | ? | ? | ? |

Comments

Issue 5(c) discusses how sites of ecological or cultural value might be protected. Option 1 (using a policy based on the recently adopted Waste Local Plan) offers the potential for positive impacts for 10 of the SA Objectives, and no significant impacts on the remaining 7. Option 2 (defining criteria for assessing impacts), however, provides much less certainty about the outcomes. Potential positive impacts are still recorded for SA Objectives 9 and 13, reflecting the specific references to ecological and cultural value within the wording of the policy option, but most of the other impacts are assessed as uncertain, because they would depend on how the criteria for conserving ecological and cultural value impacted on other SA Objectives.

Overall, Options 1 appears to represent the most sustainable option as drafted, though it is possible that criteria could be developed under Option 2 that would increase confidence of more positive outcomes.

## Issue 5(d): Minimising the environmental impact of mineral operations – timescales for the review of minerals

The Growth and Infrastructure Act 2013 provides for the MPA to determine the appropriate timescale for review provided that reviews are at least 15 years apart. A basis for determining the timescale for review needs to be determined

| **Draft Policy 5(d): Timescales for the review of minerals** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Determine a basis for review dates within Plan<br>[Determine review dates within Plan] | 0 | 0 | + | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Option 2<br>In setting environmental criteria for assessing applications, highlight opportunity to review and provide link for subsequent SPD<br>[Use SPD to establish review dates] | 0 | ?+ | ?+ | 0 | ?+ | ?+ | ?+ | ?+ | ?+ | ?+ | ?+ | ?+ | ?+ | 0 | ?+ | ?+ | ?+ |

Comments

Issue 5(d) explores how review dates should be determined, rather than what a review should address. As such, direct impacts are likely to be minimal. For Option 1 (relying on setting a review date within the Minerals Local Plan) the only impact is expected to be a clear positive contribution to maintaining mineral supplies. Option 2 (tying the review of the plan to environmental criteria) however,opens up the potential for positive impacts across most of the SA Objectives.

Overall, Options 2 appears to represent the most sustainable option, though slight modifications could be made to increase the certainty of delivering positive outcomes for selected SA Objectives.

**Issue 6(a): Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place – restoration involving the backfill of wastes.**

What's the Issue? How do we reclaim sites with less backfill material? Consider ramifications of WLP relating to waste disposal.

| **Draft Policy 6(a): Restoration involving the backfill of wastes** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Prefer proposals where reclamation can be achieved without backfill.<br>[Favour site that do not require backfill] | ?+ | 0 | 0 | 0 | ? | ? | ?+ | ?+ | ? | ? | ?- | 0 | ? | 0 | ?- | ? | ? |
| Option 2<br>Plan for sustainable backfilling where viable and necessary.<br>[Plan for backfilling where needed] | ? | 0 | 0 | 0 | 0 | ? | ? | 0 | ? | ? | ?+ | 0 | ? | 0 | ?+ | ? | ? |

Comments

Issue 6(a) considers approaches to restoration of former quarries through infilling with waste. The options here have the potential to impact on a wide range of SA Objectives, either directly through the restoration schemes that they would promote, or through the choices of quarry locations that they would encourage. Option 1 (favouring new sites that do not require backfilling) could be reasonably expected to bring about positive impacts by encouraging aggregate recycling, reducing CO2 emissions (from transporting infill material) and leaving voids that could play a role in flood defence (SA Objectives 1, 7 & 8). There would, however, be likely to be adverse impacts as it would be difficult to retain best and most versatile soils, or to mitigate the adverse impact of some former quarries o the landscape. There would also be a wide range of SA Objectives where impacts may arise if Option 1 significantly changed the range of sites worked. Such impacts would also be influenced by many other policies, so specific effects would be hard to judge.

By contrast, Option 2 (planning for backfilling where required) could make a more positive contribution to maintaining landscape quality and BMV soils (SA Objectives 11 & 15), yet the impact on the use of alternative aggregates, greenhouse gas emissions, or flood management is less certain than for Option 1.

Overall, each option has some merit, and the most sustainable way forward would be to adopt a combined approach, moving away from large scale backfilling wherever possible, yet retaining the option to backfill where there is a specific justification to do so .

| **Issue 6(b): Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place – guaranteeing high quality reclamation of quarries.** | | | | | | | | | | | | | | | | | |
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| **Draft Policy 6(b): Guaranteeing high quality reclamation of quarries** | Alternative aggregate | Safeguard RIGS | Maintaining supply | Protecting resource | "Tranquil" areas | Transport impacts | Greenhouse gases | Flood management | Biodiversity | Ground and surface waters | Soil resources | Air Quality | Historic environment | Local building materials | Landscape and townscape | Recreation and greenspace | Health, amenity and well-being |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Option 1<br>Define local standards for high quality reclamation of mineral workings.<br>[Define local standards] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | ?+ | ?+ | ?+ | 0 | 0 | 0 | ?+ | ?+ | ?+ |
| Option 2<br>Focus on opportunities for biodiversity through reclamation of mineral workings<br>[Focus on opportunities for biodiversity] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ?+ | + | ?+ | ?- | 0 | 0 | 0 | ?+ | ?+ | ?+ |
| Comments<br>Issue 6(b) looks at options for guaranteeing high quality restoration of quarries. The impacts of both options are confined to a small number of SA Objectives (8-11 & 15-17) which are likely to be affected by restoration. Option 1 (defining local standards for restoration) offers the potential for positive impacts for all of these objectives, though the final outcome would be heavily dependent on the content of the local standards that the policy option promises. Option 2(focussing on opportunities for improving biodiversity through restoration), by contrast, would focus on ensure a positive outcome for SA Objective 9, but leave other outcomes less predictable. It seems reasonable to expect that a biodiversity led restoration scheme would have the potential to produce positive outcomes for most of the sensitive SA Objectives, but there may be a specific conflict with SA Objective 11 as biodiversity-led restoration is unlikely to prioritise the retention of best and most versatile soils.<br>Overall, either option could be argued to represent a sustainable approach. There may, however, be potential to develop a better option, based on the findings of the assessment. | | | | | | | | | | | | | | | | | |

# Appendix E: How Issues assessed in the SA are reflected in the Draft Policies.

| Issues explored in SA | Conclusions | Consultation Draft Policies |
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| Issue 1(a): Ensuring a steady and adequate supply of aggregate minerals – level of provision of sand and gravel<br><br>Option 1: Use 10 years sales average of 5.4Mtpa (Based on national policy)<br><br>Option 2: Use 6.7Mtpa as recommended by WMRAWP in respect of 2005 – 2020 guidelines. (Reflects provision based on a past historical proportion of West Midlands sales (65%) not accounting for changes to quarries able to produce).<br><br>Option 3: Use 3 years sales average of 3.8Mtpa (Reflects current low sales level) | Options 1 appears to represent the most sustainable option to take forward into the Draft Policies. | *Policy 1:* Provision of Sand and Gravel<br><br>Extensions to sand and gravel sites<br><br>1.1 To ensure that there is a steady and adequate supply of sand and gravel during the Plan period, provision will be made to maintain at least a 7 year landbank of permitted reserves based on production capacity of 5.0 million tonnes of sand and gravel per annum. This production capacity will be provided initially from existing permitted reserves and by granting planning permissions to extend the following sand and gravel sites: |
| Issue 1(b): Ensuring a steady and adequate supply of aggregate minerals – provision for flexibility in level of provision of sand and gravel including provision of mortar/ asphalt sands.<br><br>Option 1: Provide separate landbank for building/soft sands (mortar/ asphalt use).<br><br>Option 2: Provide separate landbanks for bedrock and superficial deposits<br><br>Option 3: Establish criteria of exceptional circumstances where development may be acceptable over and above general sand and gravel landbank requirement. | Option 3 appears to represents the most sustainable option. | Proposals for any other sand and gravel sites (extensions / new sites)<br><br>1.6 Proposals for any other sand and gravel sites (extensions / new sites) will only be supported where it has been demonstrated that:<br><br>a) the permitted reserves, the allocated extensions to existing sites listed above or mineral resources from within the area of search would not meet the required level of provision stated in paragraph 1.1; or,<br><br>b) the proposals would secure significant material planning benefits that outweigh any material planning objections. |

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| Issue 1(c): Ensuring a steady and adequate supply of sand and gravel – strategy for identifying new reserves<br><br>Option 1: Preference to be given to extending permitted quarries before considering new sites.<br><br>Option 2: No preference to be given to extensions to existing sites.<br><br>Option 3: Consider new sites where the benefit of local supply to market can be demonstrated particularly where that supply supports local manufacturing of concrete products. | Option 1 represents the most sustainable single option, though Option 3 could be applied along with it and would bring further advantages in those situations where it is relevant. | 1.1 To ensure that there is a steady and adequate supply of sand and gravel during the Plan period, provision will be made to maintain at least a 7 year landbank of permitted reserves based on production capacity of 5.0 million tonnes of sand and gravel per annum. This production capacity will be provided initially from existing permitted reserves and by granting planning permissions to extend the following sand and gravel sites:<br>a) Captains Barn Farm (Inset Map 1)<br>b) Croxden (Inset Map 2)<br>c) Uttoxeter (Inset Map 3)<br>d) Newbold (Inset Map 4)<br>e) Barton (Inset Map 5)<br>f) Alrewas (Inset Map 6)<br>g) Calf Heath (Four Ashes) (Inset Map 7)<br>h) Saredon (Inset Map 8)<br>i) Cranebrook (Inset Map 9)<br>j) Hints / Hopwas (Inset Map 10)<br>k) Weeford (Moneymore) (Inset Map 11)<br><br>(The allocated extension sites listed above are shown on the Policies and Proposals Map and accompanying Inset Maps included in appendix 1.)<br><br>1.2 Any proposals to develop the allocated extension sites will only be supported where it has been demonstrated that they accord with the Plan policies, including Policy 4 and address the development considerations listed in appendix 1.1.<br><br>1.3 Planning permission to extend a site will normally be conditioned so that the extension area can only be worked following cessation of mineral working within the existing site unless it has been demonstrated that there are operational reasons why this is not practicable |

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| Issue 1(d): Ensuring a steady and adequate supply of sand and gravel – strategy for identifying new areas of search for additional resources<br><br>Option 1: Define an "Area of Search", in the Trent Valley to the west of the A38, in which new mineral extraction to meet production targets will be favoured once specific sites allocated in the Minerals Local Plan have been brought into production<br><br>Option 2: Seek an alternative "Area of Search" in a different part of the county, capable of meeting the required production levels<br><br>Option 3: Do not attempt to guide location of new quarries by identifying new areas of search. Consider each application for a new site on its own merit. | Overall, Options 1 appears to represent the most sustainable option | Proposals for new sand and gravel sites within the area of search<br><br>1.4 Proposals for new sites within the area of search to the west of the A38 shown on the Proposals Map will only be supported where it has been demonstrated that permitted reserves or allocated extensions to existing sites listed above cannot meet the required level of provision stated in paragraph 1.1.<br><br>1.5 Any proposals to develop new sites within the area of search to the west of the A38 will only be supported where it has been demonstrated that they accord with the Plan policies, including Policy 4 and address the development considerations listed in appendix 1. |
| Issue 2(a): Ensuring a steady and adequate supply of industrial minerals – level of provision (cement minerals)<br><br>Option 1: Provide for 15 years landbank for minerals extracted for the purposes of cement manufacture.<br><br>Option 2: Provide for 25 years landbank for minerals extracted for the purposes of cement manufacture. | Overall, the level of uncertainty of longer term impacts makes Option 1 a more sustainable option for the moment | Policy 2: Provision for Industrial Minerals used in the manufacture of cement<br><br>2.1 During the Plan period provision will be made to maintain at least 15 years of permitted reserves of:<br><br>a) limestone and shale for use at Cauldon Cement Works; and,<br><br>b) anhydrite and gypsum from Fauld Mine.<br><br>2.2 This will be achieved from existing permitted reserves and by granting planning permission to extend the existing sites within the areas of search at New House Farm and Newchurch shown on the Policies and Proposals Map and Inset Maps 12 and 13.<br><br>2.3 Any proposals will only be supported where it has been demonstrated that they accord with the plan policies, including Policy 4.<br><br>2.4 Planning permission will normally be conditioned so that the extension area can only be worked following cessation of mineral working within the existing site unless it has been demonstrated that there are operational reasons why this is not practicable. |

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| Issue 2(b): Ensuring a steady and adequate supply of industrial minerals – level of provision (brick clays))<br>Option 1: Provide for 25 years landbank for each of the following works:<br>Parkhouse Chesterton<br>Keele Wilnecote<br>Lodge Lane Warstones Road<br>Option 2: Provide for 15 years landbank for each of the following works:<br>Parkhouse Chesterton<br>Keele Wilnecote<br>Lodge Lane Warstones Road.<br>Option 3: In addition to options 1 or 2 above, provide of minerals needed for a clay blend e.g. fireclays or clays secured through prior extraction. | Options 1 appears to represent the most sustainable option, though Option 3 has the potential to add to its effectiveness | No resultant policy as landbank is already provided. |
| Issue 3(a): Safeguarding mineral resources from sterilisation caused by built development<br>Option 1: To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>Based on importance and likelihood of significant sterilisation from built development.<br>Option 2: To define mineral safeguarding areas on the basis of the following resources:<br>• Sand and gravel;<br>• Limestone<br>• Silica sand (associated with Rough Rock Formation) | Option 2 represents the most sustainable option. Option 3 could also bring some benefits if applied in conjunction with Option 2, but such benefits would be hard to quantify | Policy 3: Safeguarding Minerals of Local and National Importance and Important Infrastructure<br>Safeguarding mineral resources<br>3.1 The following mineral resources, within the Mineral Safeguarding Areas shown on the Policies and Proposals Map, will be safeguarded against needless sterilisation by non-mineral development<br>a) Sand and gravel<br>b) Limestone<br>c) Cement shale<br>d) Etruria Formation clays<br>e) Anhydrite and gypsum<br>f) Hollington Formation building stones<br>g) Silica sand associated with the Rough Rock Formation |

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| • Clays from the Etruria Formation;<br>• Gypsum and anhydrite;<br>• Coal<br>• Building stones from Hollington Formation.<br>Based on importance and likelihood of threats from built development.<br>Option 3: In addition to safeguarding mineral resources, safeguard sites with coating, batching or concrete product manufacturing plants from other development | | h) Shallow coal with associated fireclays<br>3.2 Within a Mineral Safeguarding Area, non-mineral development except for those types of development set out in appendix 6, should not be permitted until the prospective developer has produced evidence prior to determination of the planning application to demonstrate:<br>a) the existence, the quantity, the quality and the value of the underlying or adjacent mineral resource; and<br>b) that proposals for non-mineral development in the vicinity of permitted mineral sites or mineral site allocations would not unduly restrict the mineral operations.<br>3.3 Within a Mineral Safeguarding Area, where important mineral resources do exist, except for those types of development set out in appendix 6, non-mineral development should not be permitted unless it has been demonstrated that:<br>a) the non–mineral development is temporary and does not permanently sterilise the mineral; or,<br>b) the material planning benefits of the non-mineral development would outweigh the material planning benefits of the underlying or adjacent mineral; or,<br>c) it is not practicable or environmentally acceptable in the foreseeable future to extract the mineral.<br>3.4 Within a Mineral Safeguarding Area, where important minerals do exist and the above criteria have not been met, the non-mineral development except for those types of development set out in Appendix 6, should not be permitted unless the development includes provision for the extraction of the mineral prior to the development being implemented.<br>Safeguarding important mineral infrastructure sites<br>3.5 Where there are mineral infrastructure sites used for mineral processing, handling, and transportation, except for those types of |

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| | | development set out in appendix 6, non-mineral development should not be permitted unless it has been demonstrated that:<br><br>a) the non-mineral development would not unduly restrict the use of the mineral infrastructure site; or<br><br>b) the material planning benefits of the non-mineral development would outweigh the material planning benefits of the mineral infrastructure site; or,<br><br>c) the mineral infrastructure can be relocated; or<br><br>d) alternative capacity can be provided elsewhere. |
| Issue 4(a): Minimising the environmental impact of mineral operations – Impacts associated with drilling for hydrocarbons<br><br>Option 1: Policy required to assess locations for hydrocarbon extraction (refer to guidance July 2013) including policies for each phase of development.<br><br>Option 2: s per option 1 but identifying constraints on potential production areas (refer to plan of licence areas)<br><br>Option 3: Add local policy to encourage exploration of hydrocarbon resources. | Options 2 (Option1 with Option 2) appears to represents the most sustainable option | Policy 5: Planning for Hydrocarbon Extraction [Note change of sequence]<br><br>Exploration and appraisal<br><br>5.1 Proposals for the exploration and appraisal of hydrocarbons will only be supported where it has been demonstrated that well sites and associated facilities are sited in the least sensitive location from which the target reservoir can be accessed and they accord with the plan policies, including Policy 4.<br><br>5.2 Where proposals for exploration and appraisal are permitted, there will be no presumption that long term production from those wells will be permitted<br><br>Production<br><br>5.3 Proposals for the production of hydrocarbons will only be supported where it has been demonstrated that the further works and the surface facilities are justified as being required to manage the output from the well(s), including facilities for the utilisation of energy, where relevant, and that they are sited in the least sensitive location from which the target reservoir can be accessed. Proposals will also need to accord with the plan policies, including Policy 4. Proposals should also be supported by a full appraisal programme for the hydrocarbon resource |

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| | | Overall assessment<br><br>5.4 Having assessed the impacts of the proposals for the exploration, appraisal and production of hydrocarbons, permission will only be granted where it has been demonstrated that there are no unacceptable adverse impacts on human health, general amenity and the natural and historic environment, or the material planning benefits of the proposals outweigh the material planning objections. All proposals should include restoration and aftercare measures for each of the stages of development. |
| Issue 5(a): Minimising the environmental impact of mineral operations – managing cumulative impacts<br><br>Option 1: Identify current/ potential areas of concentrated working, cumulative impacts and mitigation measures that need to be taken into account.<br><br>Option 2: Define cumulative impact and consider appropriate mitigation measures. Relate to impacts associated with mineral type e.g. long term workings associated with hard rock and clay quarries and short term workings in river gravels.<br><br>Option 3: As 2, but as part of environmental criteria policy against which planning applications will be assessed and meets the requirements of Para 143 of the NPPF | Options 3 appears to offer the greatest confidence of positive outcomes, and represents the most sustainable option, though other options may also perform well in conjunction with other policies aimed at controlling adverse impacts | Policy 4: Minimising the impact of mineral development<br><br>The environmental considerations<br><br>4.1 In assessing the impact of proposals for mineral development on people, local communities and the environment, where relevant, the following environmental considerations will be taken in to account:<br><br>a) Noise;<br><br>b) Air quality;<br><br>c) Visual amenity, including the effects of light pollution;<br><br>d) Vibration from blasting operations; |

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| **Issue 5(b): Minimising the environmental impact of mineral operations – Transport of minerals**<br>Option 1: Review requirements of saved policy 30 of MLP<br>Option 2: Safeguard existing rail infrastructure that could be used in association with mineral development e.g. Cauldon and Silverdale rail lines | Options 1 represents the most sustainable option, though Option 2 is not a direct alternative and could be implemented in parallel | e) Traffic on the highway network;<br>f) Public rights of way and public open space;<br>g) Green Belt;<br>h) The countryside;<br>i) Landscape, having regard to the relative importance of the Cannock Chase Area of Outstanding Natural Beauty, the Peak District National Park together with their settings, and any locally designated areas; and having regard to the County Council's landscape character assessment 'Planning for Landscape Change'; to ensure that proposals protect and enhance valued landscapes and are informed by and sympathetic to landscape character.<br>j) Natural environment, having regard to maintaining the integrity of international sites and the relative importance of national and locally designated sites, habitats and species of principal importance for biodiversity and features of geodiversity interest; and having regard to |

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| **Issue 5(c): Minimising the environmental impact of mineral operations – Protection of sites of ecological and cultural value**<br><br>**Option 1**<br><br>Protect sites as per policy 4.2 of the JWLP<br><br>**Option 2**<br><br>Define criteria against which proposals will be judged that affect sites of ecological and cultural value. | **Options 1** appears to represent the most sustainable option as drafted, though it is possible that criteria could be developed under **Option 2** that would increase confidence of more positive outcomes | the national biodiversity strategy and the Staffordshire Biodiversity Action Plan, ecological networks, green infrastructure and the Staffordshire Geodiversity Action Plan; to ensure that proposals conserve and enhance the natural environment and where possible enhancement of ecological networks and green infrastructure<br><br>k) Historic environment, having regard to the relative importance of designated and non-designated heritage assets and their settings, the potential for previously unrecorded archaeological remains; and having regard to the Staffordshire Historic Environment Record, the Staffordshire Historic Landscape Characterisation and the Aggregates and Archaeology in Staffordshire to ensure that the proposals protect and conserve the historic environment;<br><br>l) Agricultural land, having regard to safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources as well as preventing soil pollution;<br><br>m) Stability of land, including tips, quarry slopes, backfilled land and mining subsidence; |

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| Issue 5(d): Minimising the environmental impact of mineral operations – timescales for the review of minerals<br><br>Option 1: Determine a basis for review dates within Plan<br><br>Option 2: In setting environmental criteria for assessing applications, highlight opportunity to review and provide link for subsequent SPD | Options 2 appears to represent the most sustainable option, though slight modifications could be made to increase the certainty of delivering positive outcomes for selected SA Objectives | n) Water environment, having regard to the flow and quantity of surface and ground water, managing flood risk and water quality; and having regard to the ability of impacted watercourses to meet the required ecological status under the relevant River Basin Management Plan; to ensure that proposals avoid increasing vulnerability to impacts arising from climate change and prevent contributing to unacceptable risks from water pollution.<br><br>o) Land contamination; and,<br><br>p) Cumulative effects from a single site, or from a series of sites in a locality<br><br>4.2 Where unacceptable adverse effects cannot be avoided, adequate mitigation should be demonstrated. As a last resort, where unacceptable adverse effects cannot be avoided or adequately mitigated, compensatory measures will be taken into account<br><br>4.3 Having assessed the impacts of the proposals for mineral development and the mitigation and/ or compensatory measures, permission will only be granted where it has been demonstrated that there are no unacceptable adverse impacts on human health, general amenity and the natural and historic environment, or the material planning benefits of the proposals outweigh the material planning objections..<br><br>Liaison with the local communities<br><br>4.4 Mineral operators will be encouraged to liaise with local communities when preparing new proposals and throughout the period of working and restoration of mineral sites.<br><br>Higher environmental standards<br><br>4.5 Mineral operators will be encouraged to introduce higher environmental standards of working, restoration and aftercare<br><br>Ancillary development<br><br>4.6 Proposals for ancillary development within or near to a mineral |

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| | | site will be assessed in accordance with this policy and where planning permission is granted, it will be limited to the duration of the mineral site. |

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| Issue 6(a): Ensuring that quarries are reclaimed at the earliest opportunity and that high quality restoration and aftercare takes place – restoration involving the backfill of wastes.<br><br>Option 1: Prefer proposals where reclamation can be achieved without backfill.<br><br>Option 2: Plan for sustainable backfilling where viable and necessary. | Overall, each option has some merit, and the most sustainable way forward would be to adopt a combined approach, moving away from large scale backfilling wherever possible, yet retaining the option to backfill where there is a specific justification to do so | Policy 6: Restoration of Mineral Sites<br><br>Restoration requirements<br><br>6.1 Proposals for the restoration of mineral sites will only be supported where it has been demonstrated that they accord with the plan policies, including Policy 4.<br><br>6.2 Proposals for the restoration of mineral sites, including the review of restoration strategies/ plans will only be supported where it has been demonstrated that the proposals are sufficiently comprehensive, detailed, practicable and achievable within the proposed timescales and where relevant, that:<br><br>a) the land affected at any one time would be minimised by including phased working and restoration;<br><br>b) the amount of imported backfill would be the minimum necessary to achieve the satisfactory restoration of the site;<br><br>c) sufficient backfill materials are likely to be available to restore the site within an acceptable timescale;<br><br>d) the long term potential of best and most versatile agricultural land would be safeguarded and the soil resources would be conserved;<br><br>e) the flood risk would not be increased and opportunities to reduce flooding would be maximised;<br><br>f) the restoration enhances the natural environment and net gains in biodiversity would be achieved by contributing to the delivery of local ecological networks; by preserving, restoring, re-creating and joining up habitats of principal importance and enhancing ecological networks; by protecting and supporting populations of species of principal importance; and, by contributing to the national Biodiversity Strategy, the Staffordshire Biodiversity Action Plan and relevant landscape-scale initiatives.;<br><br>g) the restoration enhances valued landscapes, the setting of heritage assets and is informed by and sympathetic to landscape |
| Issue 6(b): Ensuring that quarries are reclaimed at the earliest | Overall, either option | |

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| opportunity and that high quality restoration and aftercare takes place – guaranteeing high quality reclamation of quarries.<br><br>Option 1: Define local standards for high quality reclamation of mineral workings.<br><br>Option 2: Focus on opportunities for biodiversity through reclamation of mineral workings | could be argued to represent a sustainable approach. There may, however, be potential to develop a better option, based on the findings of the assessment | character (including heritage assets and the historic landscape character);<br><br>h) the aftercare provision would be sufficient to secure high quality and sustainable restoration of the site; and,<br><br>i) opportunities to increase the provision of public access, public open space, recreational and sporting facilities would be maximised, particularly where the proposals would contribute towards development plan policies and proposals, or other local initiatives;<br><br>j) proposals support the Water Framework Directive objectives by improving river geomorphology and wetland habitat complexity.<br><br>Regular review of the restoration strategies / plans<br><br>6.3 Developers will be required to regularly review their restoration strategy / plan at least every 10 years to ensure that it is up to date having regard to Policy 6.2 above<br><br>Financial Guarantees<br><br>6.4 6.4 In exceptional circumstances, developers will be required to demonstrate that adequate financial provision has been made to fulfil the restoration and aftercare requirements when proposals are submitted:<br><br>a) for a new mineral site; or,<br><br>b) to change the working, restoration and aftercare of an existing site, particularly when the proposals involve a change to the ownership or control of the site, or part thereof.<br><br>Overall assessment<br><br>6.5 Having assessed the restoration proposals, permission will only be granted where it has been demonstrated that:<br><br>a) the restoration proposals are sufficiently comprehensive, detailed, practicable and achievable within the proposed timescales; and, |

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| | | b) the material planning benefits of the restoration proposals outweigh the material planning objections. |

# Appendix F: Assessment of potential new mineral sites required to implement draft policies

| Ref. No. | All submitted sites | Alternative aggregate | RIGS | Maintaining supply | Protecting resources | Tranquillity | Transport impacts | Greenhouse gasses | Flood management | Biodiversity | Ground & surface water | Soil | Air Quality | Historic environment | Local building materials | Landscape | Recreation and greenspace | Health and amenity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| S&G extensions | | | | | | | | | | | | | | | | | | |
| 861 M | Alrewas South | 0 | 0 | + | + | 0 | 0 | 0 | ?- | ?+ | 0 | - | ?- | ?- | 0 | ?+ | ? | ?- |
| 502 M | Barton (Wychnor) | 0 | 0 | + | + | 0 | 0 | 0 | 0 | ?+ | ?- | - | ?- | - | 0 | ?+ | 0 | 0 |
| 805-808 MW | Bucks Head Farm (Hints) | 0 | 0 | + | + | 0 | ?- | ?+ | 0 | ?+ | 0 | - | 0 | ?- | 0 | 0 | ?- | 0 |
| 681 MW | Calf Heath | 0 | 0 | ?+ | + | 0 | 0 | ?+ | 0 | ?+ | 0 | ?- | ?- | ?- | 0 | ?- | 0 | ?- |
| 0171 M | Captains Barn Farm | 0 | 0 | ?+ | + | 0 | 0 | ?+ | 0 | ?- | ?- | ?- | ?- | ?- | 0 | ?- | ?- | ?- |
| 802 M | Cranebrook, Hammerwich | 0 | 0 | ?+ | + | 0 | 0 | ?+ | 0 | ?+ | 0 | - | ?- | ?- | 0 | ?- | 0 | 0 |
| 110 M | Croxden (North) | 0 | 0 | + | + | ? | ?- | 0 | 0 | ? | 0 | 0 | ?- | ? | 0 | ?- | ? | 0 |
| | Croxden (South) | 0 | 0 | + | + | ? | ?- | 0 | 0 | ?- | 0 | 0 | ?- | ?- | 0 | - | ? | 0 |
| 501b MW | Newbold NE (Tatenhill) | 0 | 0 | ?+ | + | 0 | ?- | 0 | 0 | ? | 0 | ?- | ?- | ?- | 0 | 0 | ? | ?- |
| 602b M | Saredon South | 0 | ?- | ?+ | + | 0 | ?- | ?+ | 0 | ?- | 0 | ?- | ?- | ? | 0 | ?- | 0 | 0 |
| 862 M | Shireoak | 0 | 0 | ?+ | + | 0 | 0 | ?+ | 0 | ? | ?- | - | - | 0 | 0 | 0 | 0 | ?- |
| 631 MW | Upper Whittimere | 0 | 0 | ?+ | + | ? | - | 0 | 0 | ?- | - | ?- | 0 | 0 | 0 | ? | 0 | ?- |
| 524 M | Uttoxeter (Dove) | 0 | 0 | ?+ | + | ? | ?- | ?- | 0 | ? | 0 | 0 | 0 | ?- | 0 | - | ?+ | ?- |

| Ref. No. | All submitted sites | Alternative aggregate | RIGS | Maintaining supply | Protecting resources | Tranquillity | Transport impacts | Greenhouse gasses | Flood management | Biodiversity | Ground & surface water | Soil | Air Quality | Historic environment | Local building materials | Landscape | Recreation and greenspace | Health and amenity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 400 M | Weavers Hill | 0 | ?- | ?+ | + | ? | 0 | ?- | ?- | - | - | ?- | 0 | ? | 0 | - | ?- | 0 |
| 807a MW | Weeford (Camp) | 0 | 0 | + | + | 0 | 0 | ?+ | ?- | ?- | ?- | ?- | ?- | 0 | 0 | - | ?- | 0 |
| 807b MW | Weeford (Sawpits Lane) | 0 | 0 | ?+ | + | 0 | 0 | ?+ | ?- | ?- | ?- | ?- | ?- | 0 | 0 | - | ?- | ?- |
| 810 MW | Weeford (Ricketts) | 0 | 0 | ?+ | + | 0 | | ?+ | | | | | ?- | | | | | |
| Stand-alone sites | | | | | | | | | | | | | | | | | | |
| | AoS West of A38 | 0 | 0 | + | + | ? | ? | 0 | - | ? | 0 | - | ?- | ?- | 0 | ?- | ? | - |
| 865 M | Alrewas West | 0 | 0 | + | + | | 0 | 0 | - | | 0 | - | ?- | ?- | 0 | | | ?- |
| 525 M | Bancroft Farm | 0 | 0 | ?+ | + | | 0 | ?- | - | ?- | 0 | ?- | ?- | ?- | 0 | - | ?- | 0 |
| 433 M | Beech | 0 | 0 | ?+ | + | ? | ?- | ?+ | 0 | ? | 0 | ?- | ?- | 0 | 0 | - | ?- | 0 |
| 863 M | Fisherwick | 0 | 0 | ?+ | + | | 0 | 0 | - | ? | | - | 0 | | 0 | ?+ | | ?- |
| 2011 M | Folly Wood | 0 | 0 | ?+ | + | ?- | ?- | ?- | 0 | ? | - | - | ?- | ?- | 0 | 0 | | ?- |
| 689 M | Lodge Farm, Weston | 0 | ?- | ?+ | + | ? | - | ?- | 0 | ?+ | - | - | 0 | 0 | 0 | - | 0 | 0 |
| 690 M | Mile Flat | 0 | 0 | ?+ | + | ? | ?- | ?+ | 0 | ?- | - | - | ?- | ?- | 0 | - | | - |
| 432 M | Moddershall Grange | 0 | ?+ | + | + | ? | - | ?+ | 0 | ? | - | - | ?- | ?- | 0 | - | ?+ | ?- |
| 298 M | Netherset Hey | 0 | 0 | ?+ | + | ? | ?- | ?+ | ?- | ? | 0 | - | 0 | 0 | 0 | - | ?- | ?- |

| Ref. No. | All submitted sites | Alternative aggregate | RIGS | Maintaining supply | Protecting resources | Tranquillity | Transport impacts | Greenhouse gasses | Flood management | Biodiversity | Ground & surface water | Soil | Air Quality | Historic environment | Local building materials | Landscape | Recreation and greenspace | Health and amenity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 434 M | Seighford North | 0 | 0 | ?+ | + | ? | - | ?- | - | | 0 | - | 0 | | 0 | | | 0 |
| 435 M | Seighford South | 0 | 0 | ?+ | + | ? | - | ?- | 0 | | 0 | - | 0 | | 0 | | | 0 |
| 859 M | Wychnor Estate (South) | 0 | 0 | + | + | | 0 | 0 | 0 | ? | 0 | - | ?- | 0 | 0 | - | ?+ | 0 |
| 864 M | Wychnor Estate (North) | 0 | 0 | + | + | | 0 | 0 | - | ? | 0 | - | ?- | ? | 0 | ? | ? | ?- |
| 866 M | Hopwas Woods | 0 | 0 | | + | | 0 | ?+ | 0 | - | - | - | 0 | - | 0 | - | - | ?- |
| 892 M | Swindon Golf Course | 0 | 0 | ?+ | + | ? | - | ?+ | 0 | ?+ | ?- | - | ?- | ?- | 0 | - | | 0 |

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